

MAIDENS GREEN STAGE 4 CONSTRUCTION CERTIFICATE KIELY ROAD PROJECTS PTY LTD

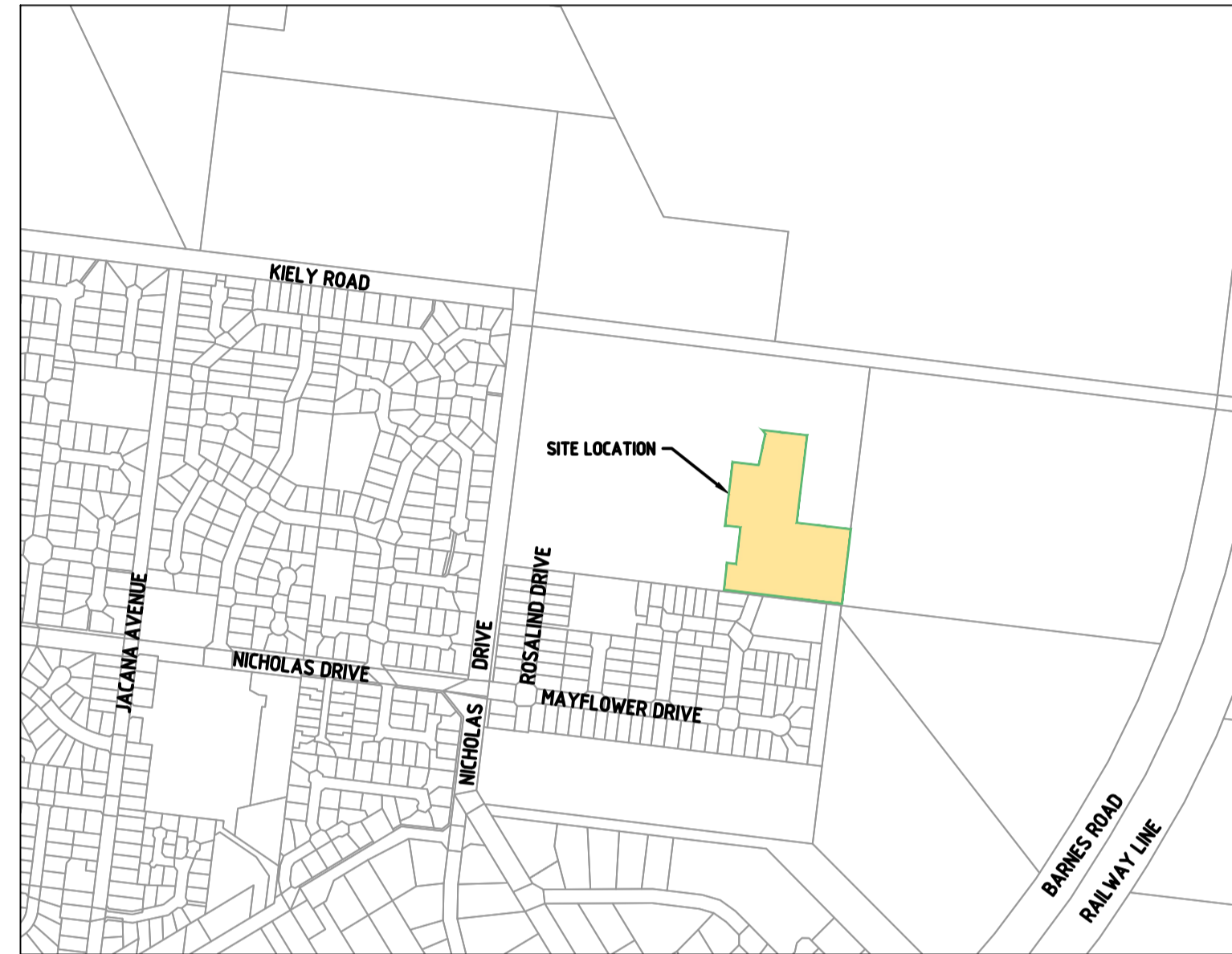
GENERAL NOTES

A. GENERAL

- ALL WORK TO BE CARRIED OUT TO MURRAY RIVER COUNCIL SPECIFICATIONS, STANDARD DRAWINGS AND TO THE SATISFACTION OF COUNCIL'S SENIOR SURVEILLANCE OFFICER OR HIS REPRESENTATIVE.
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM AND ALL COORDINATES ARE TO MAP GRID OF AUSTRALIA (MGA 2020) ZONE 55.
- THE LOCATION OF EXISTING SERVICES SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL SERVICE AUTHORITIES. ANY EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
- FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND ONLY RE-TOPSOILED IN THE DIRECTION OF THE ENGINEER, TO THE FINAL FILL LEVELS SHOWN ON THE DRAWINGS. ALL FILLING IS TO BE:
 - APPROVED BY THE PROJECT GEOTECHNICAL CONSULTANT.
 - PLACED IN LAYERS NOT EXCEEDING 200MM LOOSE THICKNESS.
 - MOISTURE CONDITIONED TO WITHIN 85% TO 115% OF OPTIMUM MOISTURE CONTENT.
 - COMPACTED TO A MINIMUM 95% (STANDARD) DRY DENSITY RATIO.
 - PLACED UNDER "LEVEL 1" SUPERVISION IN ACCORDANCE WITH AS 3798-1996.
- EXISTING DEPRESSIONS & DRAINS TRAVERSING THE SITE ARE TO BE CLEANED OUT AND DESLUGGED TO FIRM BASE AND FILLED TO FINISHED SURFACE LEVELS TO THE SPECIFIED COMPACTION STANDARDS.
- TBM'S TO BE RE-ESTABLISHED BY THE LICENSED SURVEYOR IF FOUND TO BE MISSING AT THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR CARE AND MAINTENANCE OF TBM'S THEREAFTER.
- POSITION CONDUITS SO THAT A MINIMUM DISTANCE BETWEEN TAPPING IS 10M. CONDUITS TO BE LOCATED MIDWAY BETWEEN FENCE LINE OF LOT, UNLESS OTHERWISE SHOWN.
- BEFORE COMMENCING WORK ON EXCAVATIONS IN EXCESS OF 1.5 M DEEP, A SAFE WORK METHOD STATEMENT (SWMS) MUST BE PREPARED. ALL EXCAVATIONS ARE TO BE IN ACCORDANCE WITH THE RELEVANT NSW ACTS AND REGULATIONS.
- COUNCIL'S REPRESENTATIVE IS TO BE NOTIFIED IN WRITING 72 HOURS PRIOR TO THE COMMENCEMENT OF WORKS.
- NO EXCAVATION WITHIN 5M OF ANY EXISTING TREE WITHOUT APPROVAL OF THE ENGINEER.
- NO BLASTING IS PERMITTED WITHOUT OBTAINING COUNCIL'S SPECIAL DISPENSATION.
- EXCAVATED MATERIAL SURPLUS TO FILLING REQUIREMENTS OF THE WORKS SHALL BE REMOVED FROM SITE AS SPECIFIED.
- ALL SURPLUS ROCK, CONCRETE AND BITUMINOUS RUBBLE SHALL BE DISPOSED OFF SITE AS SPECIFIED. THE CONTRACTOR SHALL CHECK WITH SUPERINTENDENT WHETHER ANY LARGE ROCKS ARE REQUIRED FOR LANDSCAPE PURPOSES PRIOR TO DISPOSAL.
- NATURESTRIPS AND ALL AREAS OF CUT OUTSIDE ROAD RESERVE TO BE SURFACED WITH 100MM MINIMUM COMPACTED LAYER OF TOPSOIL.
- THE LOCATION OF ALL SERVICE CONDUITS ARE TO BE MARKED 5mm INTO THE FACE OF BOTH KERBS, IMMEDIATELY ABOVE THE CONDUIT WITH UNIFORM 50mm HIGH LETTER, WHERE CONDUITS CROSS FOOTPATHS, THE LOCATION IS TO BE MARKED IN THE PATH (NEAR THE EDGE) IN THE SAME FASHION.
- ENVIRONMENTAL REQUIREMENTS - ALL TREES MUST BE PRESERVED AND PROTECTED AT ALL TIMES. TREES MARKED X ON THE DESIGN PLANS MAY BE REMOVED.

B. ROAD WORKS

- FOOTPATHS ARE TO BE 1.5M WIDE UNLESS SHOWN OTHERWISE. FOOTPATHS TO BE CONSTRUCTED TO THE MURRAY RIVER COUNCIL'S STANDARDS.
- CONSTRUCT LAYBACK SECTION AT VEHICLE CROSSING, REVERSING BAYS AND CAR PARKING BAYS AND PRAM CROSSING TO MURRAY RIVER COUNCIL'S STANDARDS.
- ALL CHAINAGES REFER TO ROAD PAVEMENT CENTRELINES EXCEPT IN COURT HEADS AND INTERSECTIONS WHERE CHAINAGES REFER TO BACK OF KERB.
- THE CONTRACTOR IS REQUIRED TO CONFINE CONSTRUCTION VEHICLES TO THE ROAD RESERVE AND EASEMENTS. ANY DAMAGE CAUSED TO ALLOTMENTS MUST BE MADE GOOD.
- ALL BATTERS SHALL BE TO MURRAY RIVER COUNCIL STANDARDS.
 - CUT 1 IN 12 UNLESS OTHERWISE SHOWN.
 - FILL 1 IN 12 UNLESS OTHERWISE SHOWN.
- ALL SET OUT INFORMATION GIVEN IS TO LIP OF KERB UNLESS OTHERWISE SHOWN.
- WHERE CRUSHED ROCK IS SHOWN UNDER CONCRETE FOOTPATHS CONSTRUCTED ON FILL, THE CRUSHED ROCK IS TO BE 20MM CLASS.
- WHERE CUT BATTERS ARE STEEPER THAN 1:6 THEY MUST BE HYDRO MULCHED.
- SUBGRADE BE COMPACTED TO A MINIMUM OF 98% STANDARD MAXIMUM DRY DENSITY (AS3798), WITH THE SUBBASE COMPACTED IN ACCORDANCE WITH SCALE C IN VICROADS TABLE 304.071 USING FINE CRUSHED ROCK AND THE BASE COURSE TO AN AVERAGE OF 100% MINIMUM MODIFIED DRY DENSITY. ANY FILLING BENEATH ROAD PAVEMENT AREAS TO BE COMPACTED TO 100% OF MAXIMUM DRY DENSITY. COMPACTION TESTING TO BE AS PER COUNCIL REQUIREMENTS.
- ANY BACKFILL WITHIN 1.0M OF A COUNCIL ASSET (ROAD) IS TO BE FCR. FILL MATERIAL IS ACCEPTABLE IF COMPACTED TO ENSURE 95% COMPACTION. COMPACTION TESTING TO BE PERFORMED AT ONE PER 60M OF TRENCH.
- CONCRETE TO HAVE 28DAY STRENGTH OF 25MPA UNLESS NOTED OTHERWISE.
- LEVEL 1 COMPACTION REPORT REQUIRED FOR ANY FILL ON THE ROAD RESERVE. THIS MUST BE PROVIDED TO MURRAY RIVER COUNCIL PRIOR TO ANY PROF ROLL.
- PAVEMENT TESTING IS TO BE COMPLETED IN ACCORDANCE WITH MURRAY RIVER COUNCIL 'ENGINEERING GUIDELINES FOR SUBDIVISIONS FOR SUBDIVISIONS AND DEVELOPMENT STANDARDS'.
- THE PRE-APPROVED PREFERRED DRIVEWAY LOCATIONS SHOWN ON DRG NO.310098CC030 ARE TO BE CONSTRUCTED BY EACH LANDOWNER AT A LATER DATE.



LOCALITY PLAN
NOT TO SCALE



LEGEND

DESCRIPTION	EXISTING	PROPOSED
FILTERED WATER MAIN, VALVE AND HYDRANT		
RAW WATER		
IRRIGATION WATER		
UNDERGROUND ELECTRICITY		
OVERHEAD ELECTRICITY & POLE		
TELECOMMUNICATIONS & SERVICE PIT		
GAS MAIN		
SEWER & MANHOLE		
SEWER RISING MAIN		
COUNCIL STORMWATER DRAIN & PIT		
COUNCIL STORMWATER PITS		
STORMWATER DRAINAGE PIT NUMBER		
GAS & WATER CONDUITS		
VEHICLE CROSSING		
SURFACE CONTOUR MINOR		
SURFACE CONTOUR MAJOR		
SURFACE LEVEL		
BATTER LEVEL (TOP / TOE)		
EARTHWORKS GRADE		
SIGN AND POST		
LIGHT & POLE (BY OTHERS)		
STREET SIGN		
PERMANENT SURVEY MARK		
TEMPORARY BENCH MARK		
BOLLARD		
ROAD CHAINAGES		
LOT CHAINAGE		
SETOUT POINT		
LIMIT OF WORKS		
EARTHWORK - FILL GREATER THAN 200mm		
EARTHWORK - CUT GREATER THAN 200mm		
BATTER		
ROCK BEACHING		
FENCE - TREE PROTECTION		
FENCE - VEHICLE EXCLUSION		
FENCES		
TREE (& SURVEYED CANOPY) TO BE RETAINED		
TREE TO BE REMOVED		
VEGETATION LINE		



WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

SERVICE LOCATION TABLE

ROAD NAME	FILTERED WATER		RAW WATER		GAS		NBN (TELECOM)		ELECTRICITY			
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	POLE		U/G CABLE	
									SIDE	OFFSET	SIDE	OFFSET
MAYFLOWER DRIVE	E	2.50	E	3.00	E	3.50	W	1.0	W	1.0x	W	0.40
MAYFLOWER DRIVE (EXISTING)	E	2.20	E	2.60	E	2.90	W	1.0	W	1.0x	W	0.40
EMERALD AVENUE	S	2.15	S	2.55	S	2.95	N	1.0	N	1.0x	N	0.40
KINGS CIRCUIT (LOT 419 -422)	N	2.15	N	2.55	N	2.95	N	1.0	S	0.8x	N	0.40
KINGS CIRCUIT (LOT 423 -425)	W	2.15	W	2.55	W	2.95	W	1.0	E	0.8x	W	0.40

- TELECOMMUNICATIONS AND ELECTRICITY CABLES TO BE CONSTRUCTED IN A COMMON TRENCH IN ACCORDANCE WITH ELECTRICITY AUTHORITY STANDARD DRG'S.
- GAS AND WATER MAINS TO BE CONSTRUCTED IN A COMMON TRENCH.
- x = OFFSET FROM BACK OF KERB

file name: 310098CC04.dwg, layout: mgs, cco01, plotted by: hsc, ruff, file location: G:\310098\civil\CLAD\plan.dwg, date: 30/10/2023, 9:55 AM, Sheet 1 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F	18/09/23
A	ISSUED FOR APPROVAL	J.F	22/02/23



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



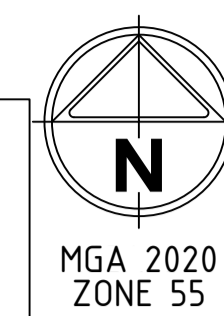
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 23

**MAIDENS GREEN
STAGE 4
COVER SHEET
SHEET 1**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No **310098CC001** Rev **0**



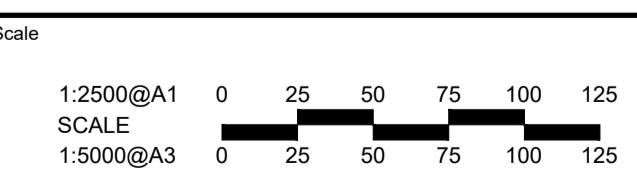
DRAWING SCHEDULE

DRAWING	DESCRIPTION	SHEET No.	REVISION
CC001	COVER SHEET - FACESHEET	1	B
CC002	DRAWING SCHEDULE	2	B
CC005	GENERAL ARRANGEMENT PLAN - TYPICAL DETAILS AND SECTIONS	3	B
CC025	STAGING PLAN	4	B
CC030	ROAD LAYOUT PLAN	5	B
CC100	ROAD LONGITUDINAL SECTIONS - EMERALD AVENUE & MAYFLOWER DRIVE	6	B
CC101	ROAD LONGITUDINAL SECTIONS - KINGS CIRCUIT	7	B
CC140	ROAD CROSS SECTIONS - MAYFLOWER DRIVE	8	B
CC141	ROAD CROSS SECTIONS - MAYFLOWER DRIVE & EMERALD AVENUE	9	B
CC142	ROAD CROSS SECTIONS - KINGS CIRCUIT	10	B
CC143	ROAD CROSS SECTIONS - KINGS CIRCUIT	11	B
CC270	INTERSECTION DETAILS - EMERALD AVENUE - MAYFLOWER DRIVE - KINGS CIRCUIT	12	B
CC400	HYDRAULICS - NOTES & LEGEND - DRAINAGE, SEWER & WATER NOTES	13	B
CC430	HYDRAULICS - DRAINAGE PROFILES - SHEET 1 OF 3	14	B
CC431	HYDRAULICS - DRAINAGE PROFILES - SHEET 2 OF 3	15	B
CC432	HYDRAULICS - DRAINAGE PROFILES - SHEET 3 OF 3	16	B
CC500	HYDRAULICS - SEWER & WATER - WATER LAYOUT PLAN	17	B
CC501	HYDRAULICS - SEWER & WATER - WATER DETAILS	18	B
CC502	HYDRAULICS - SEWER & WATER - SEWER LAYOUT PLAN	19	B
CC530	HYDRAULICS - SEWER PROFILES	20	B



file name: 310098CC002_4.dwg; layout name: CC002; plotted by: Isaac_Buff; file location: G:\310098\Civil\ACAD\plot_date_30/10/2023_9:55:45AM_Sheet_2 of 20_Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23



System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

**MAIDENS GREEN
STAGE 4
DRAWING SCHEDULE
SHEET 1**

MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Dwg No 310098CC002 Rev 0

DESIGN PAVEMENT PROFILE

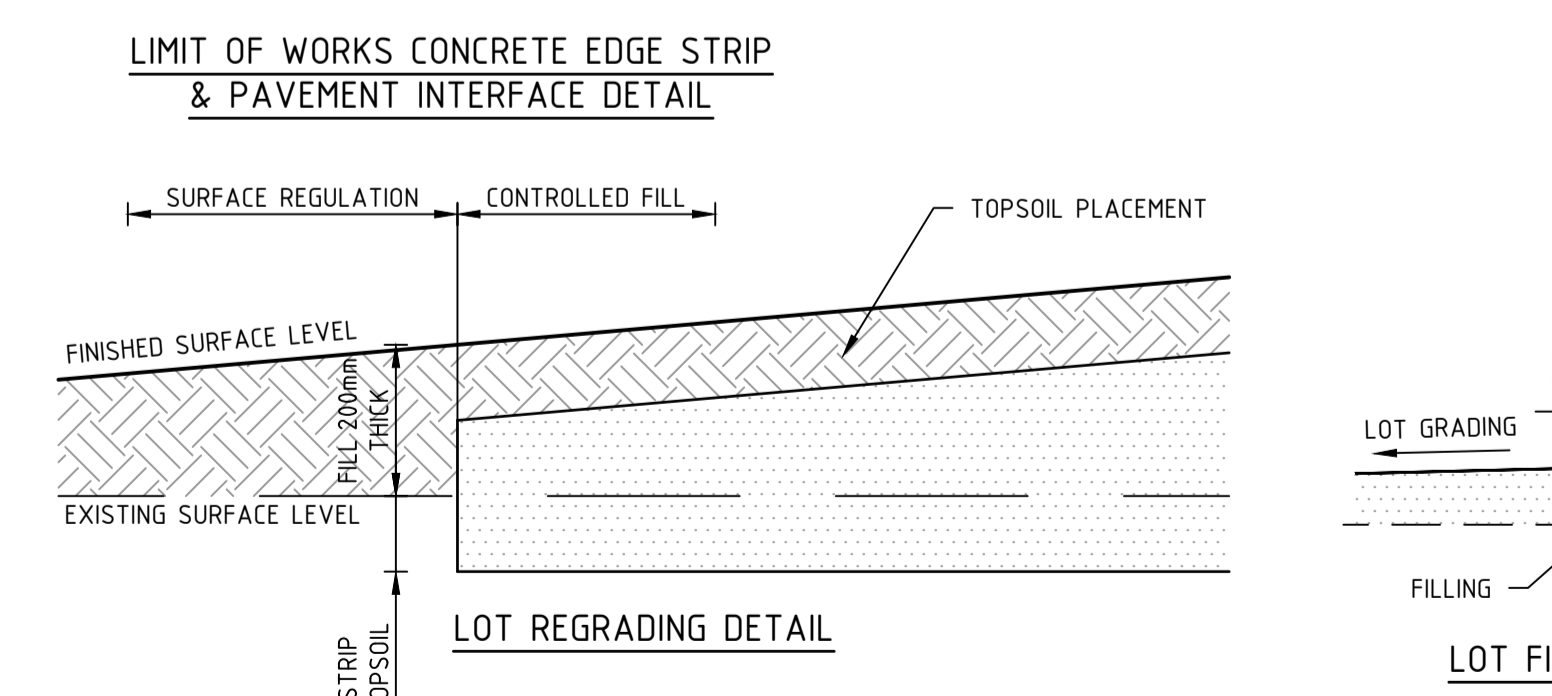
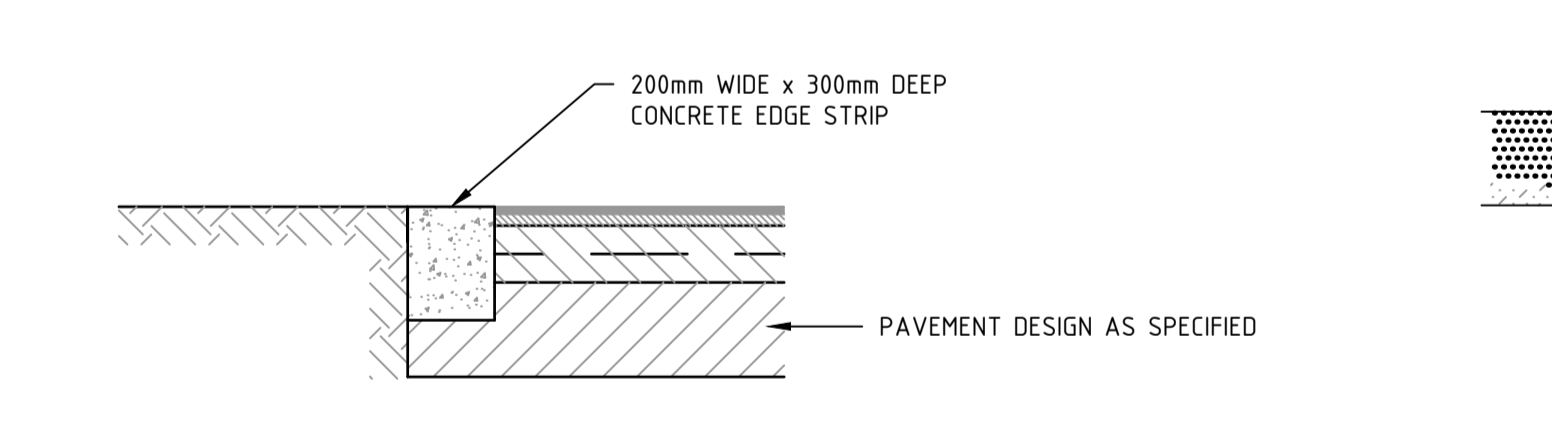
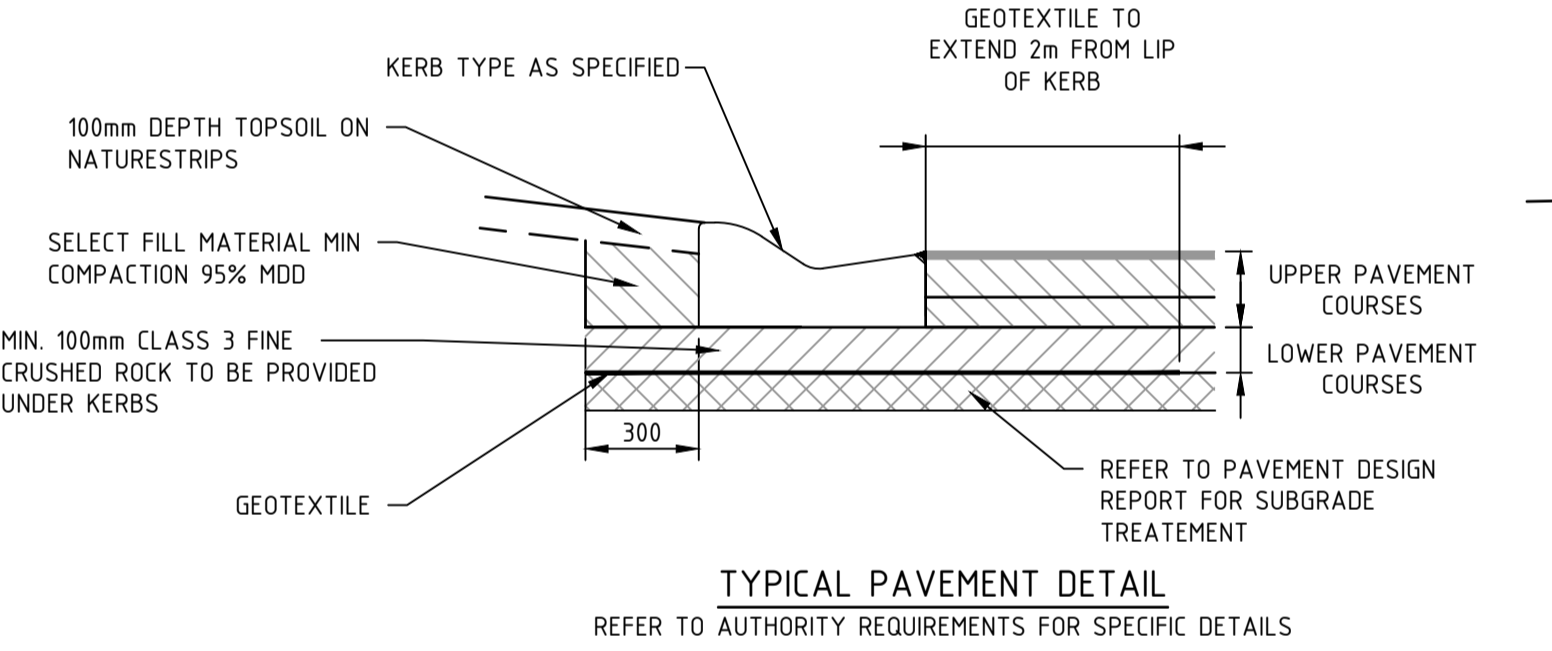
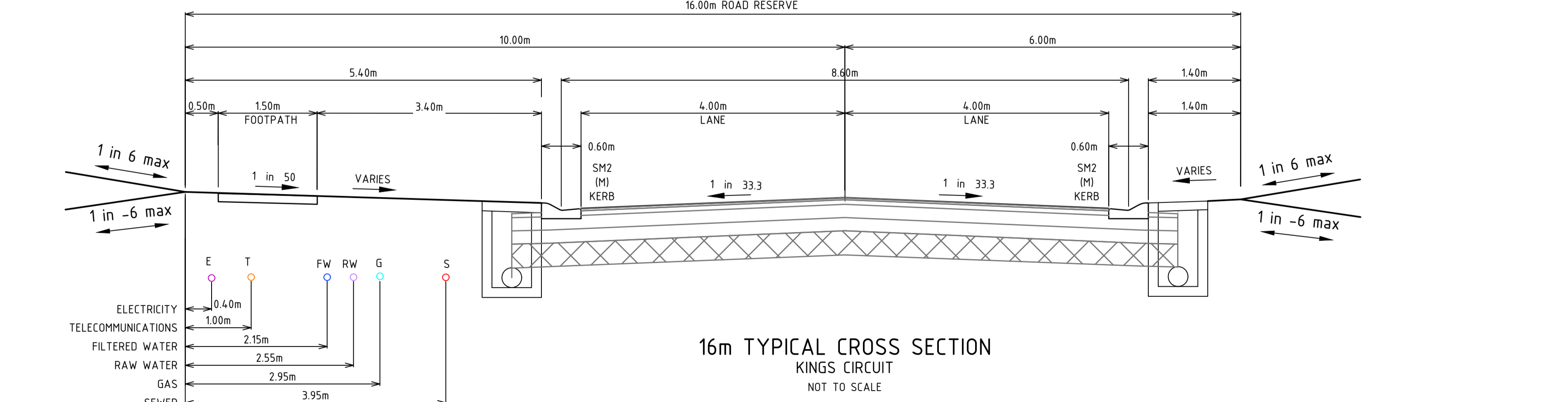
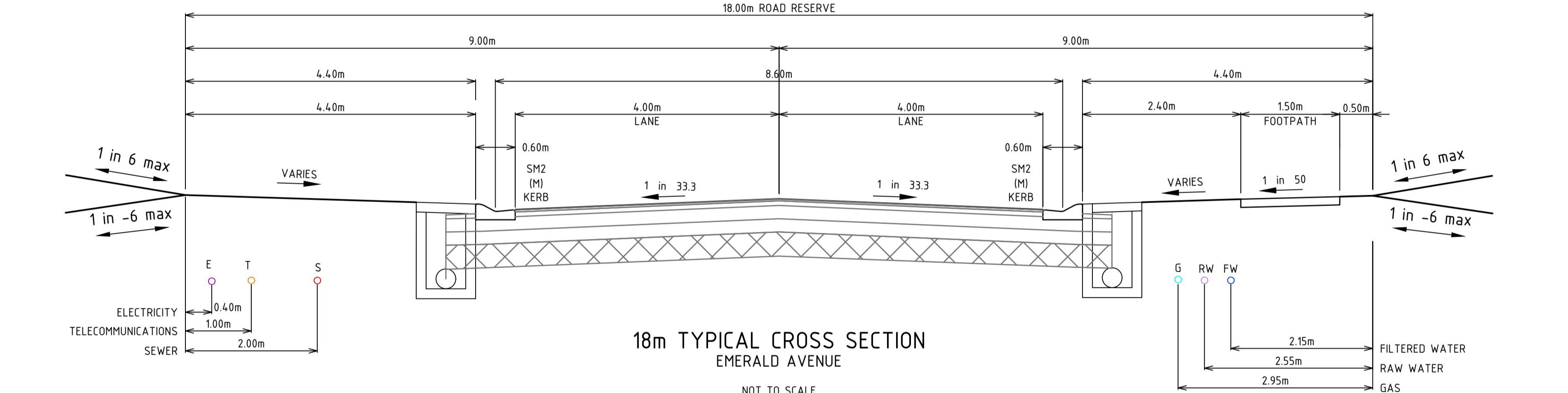
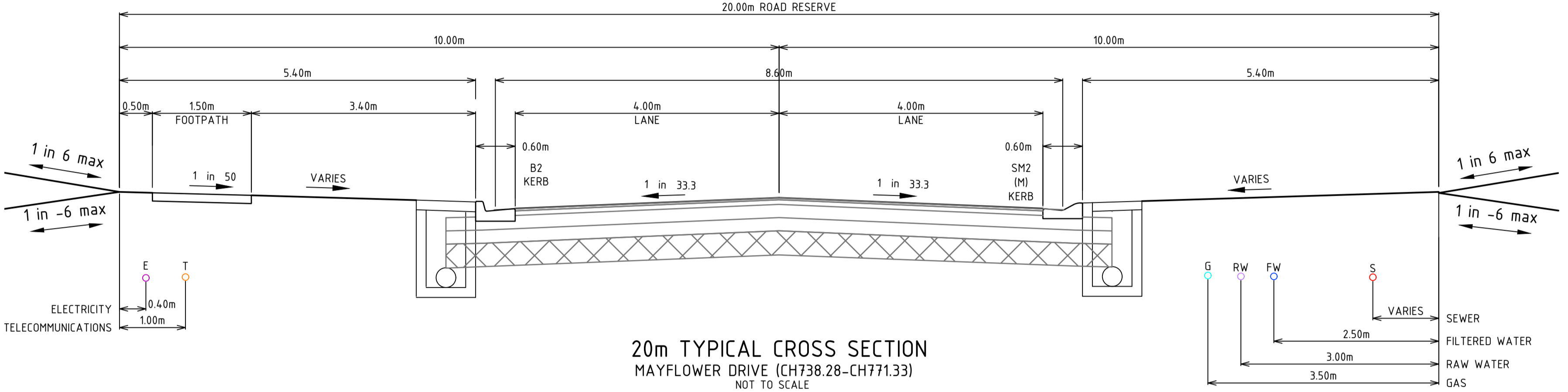
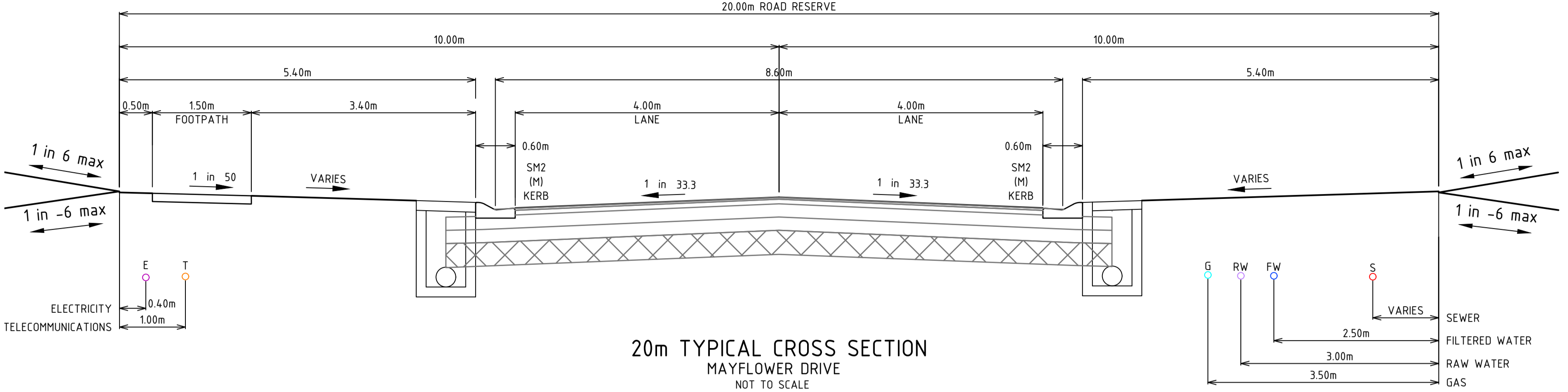
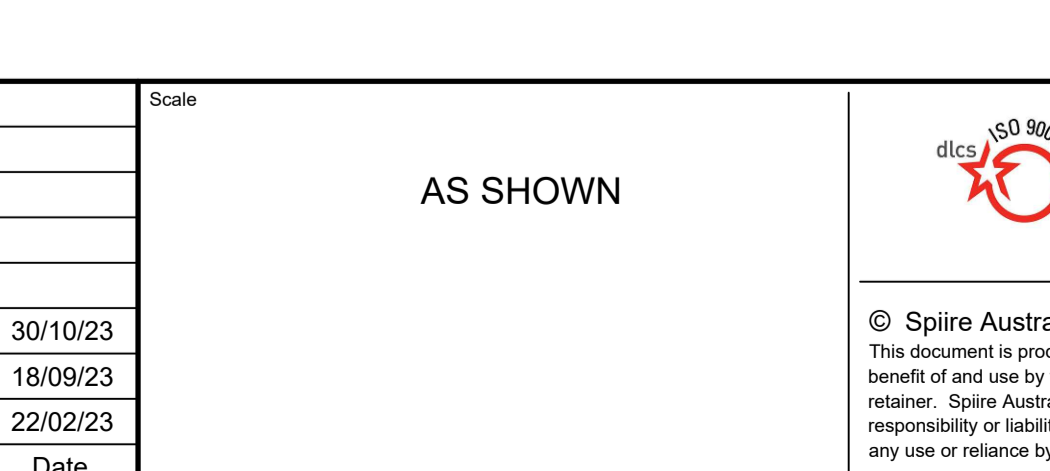
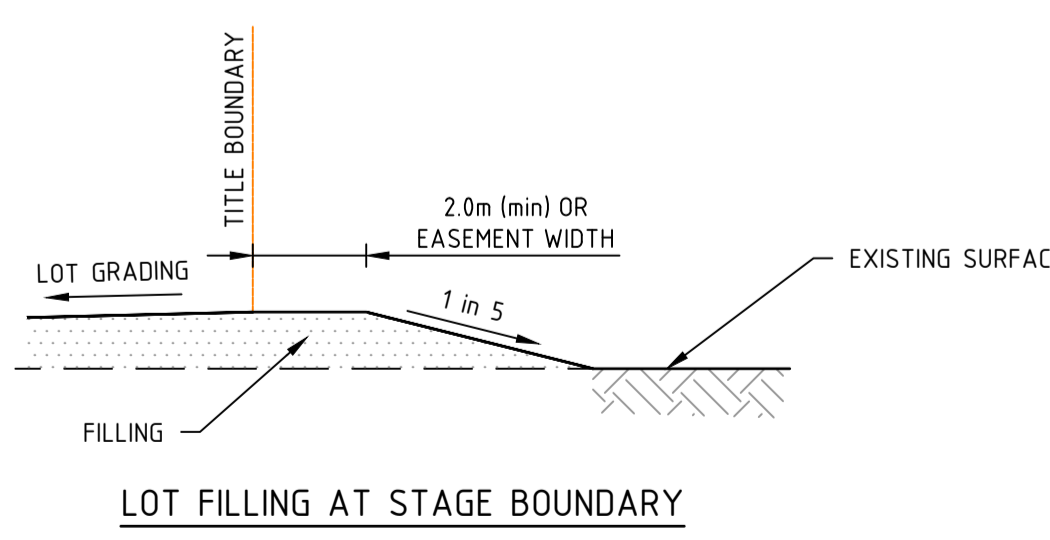
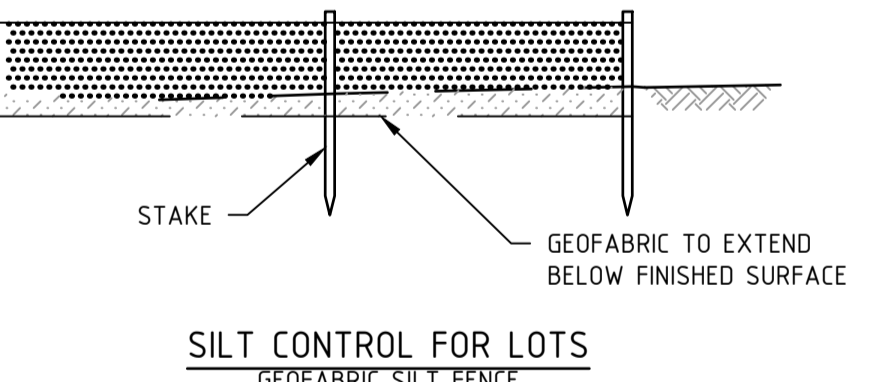
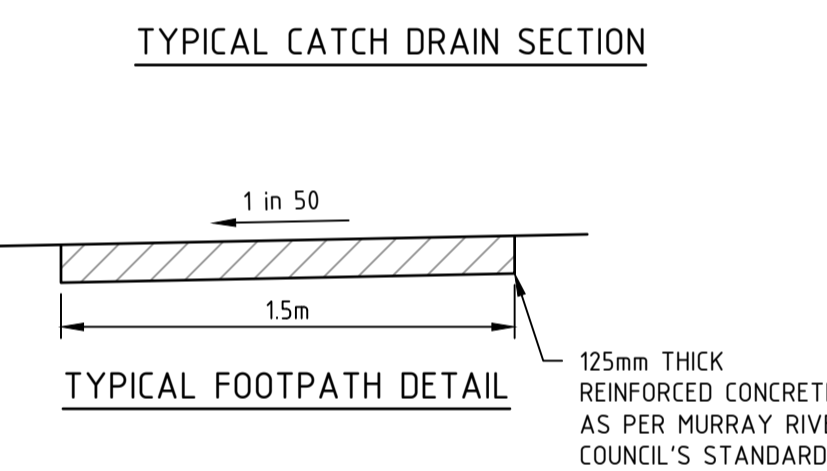
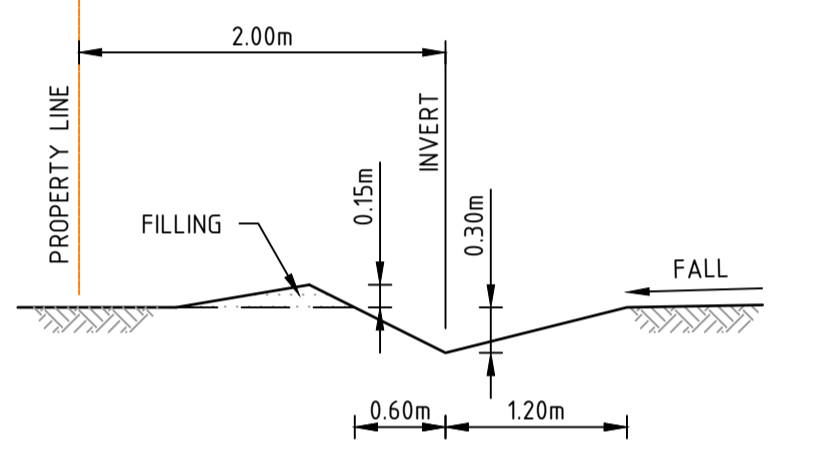
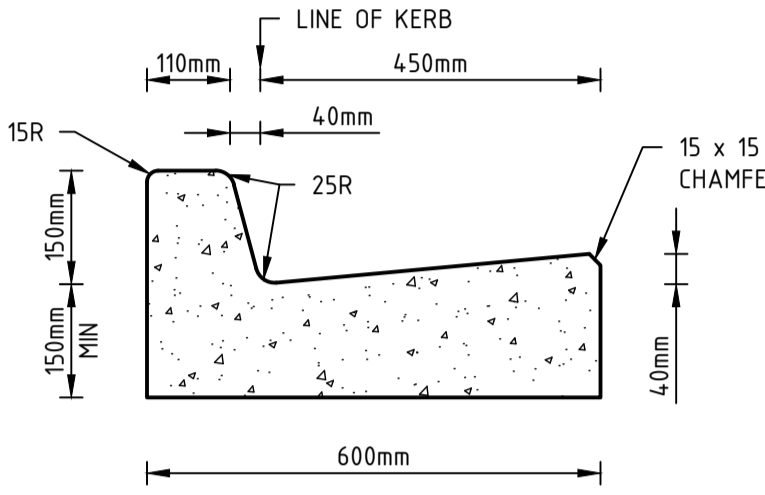
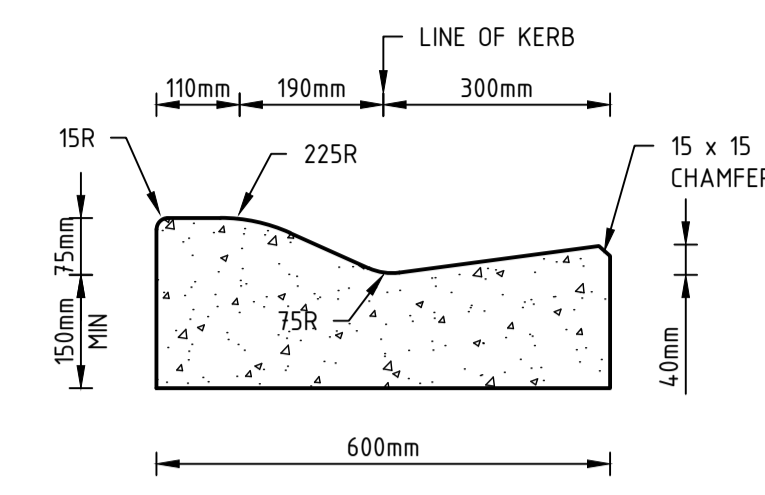
PAVEMENT LAYER	DESCRIPTION	DEPTH (mm)
		TYPE A
WEARING COURSE	SIZE 10 TYPE N ASPHALT, WITH PRIME	40
BASE COURSE	CLASS 1 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MDD)	160
SUBBASE COURSE	CLASS 3 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MDD)	140
GEOFABRIC	A14 BIDIM NONWOVEN GEOTEXTILE (EXTEND 300mm BEHIND BACK OF KERB)	
SUBGRADE	3% LIME, 1% CEMENT STABILISATION OF EXISTING MATERIAL, COMPACTED TO 98% STANDARD COMPACTION.	200
TOTAL PAVEMENT DEPTH		540

PAVEMENT DETAILS

THE PAVEMENT DESIGNS SHOWN HERE HAVE BEEN PROVIDED BY MURRAY RIVER COUNCIL. SPIIRE DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE GEOTECHNICAL WORK AND PAVEMENT DESIGNS. ANY QUERIES IN RESPECT TO THE PAVEMENT DESIGNS SHOULD BE ADDRESSED TO MURRAY RIVER COUNCIL AND COPIED TO SPIIRE.

GENERAL NOTES:

- ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND CCAA LITERATURE.
- ALL CONCRETE TO BE MINIMUM 25MPa COMPRESSIVE STRENGTH
- CONCRETE TO BE THOROUGHLY COMPACTED USING EITHER SURFACE AND/OR IMMERSION VIBRATORS, PARTICULARLY AROUND REINFORCEMENT AND IN CORNERS OF FORMS.
- PRIOR TO CASTING, THE UNBOUND GRANULAR SUBBASE MUST BE DAMP TO ENSURE NO EARLY "DRYING OUT" OF THE CONCRETE.
- SAW CUTTING OF CONCRETE SHOULD BE COMMENCED AS SOON AS CONCRETE PERMITS BY EXPERIENCED CONTRACTORS, BUT NO LATER THAN 12 HOURS AFTER POUR.
- ALL DOWELS TO BE GRADE 250R STEEL BARS, 800mm LONG AND PLACED AT 300mm CENTRES. REFER CCAA- "CONCRETE PAVEMENT DESIGN FOR RESIDENTIAL STREETS" FOR DOWEL DIAMETERS. DOWELS MUST BE ACCURATELY PLACED TO ENSURE THE JOINT DOES NOT "LOCK". INSERTION OF DOWELS DURING THE PLACING OF CONCRETE IS NOT ACCEPTABLE. DOWELS MUST BE SAWN AND NOT CROPPED.
- ALL JOINTS TO BE APPROPRIATELY SEALED TO RESIST THE INTRUSION OF SAND AND GRAVEL AND TO MINIMISE THE INGRESS OF WATER.



Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F	18/09/23
A	ISSUED FOR APPROVAL	J.F	22/02/23

AS SHOWN



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

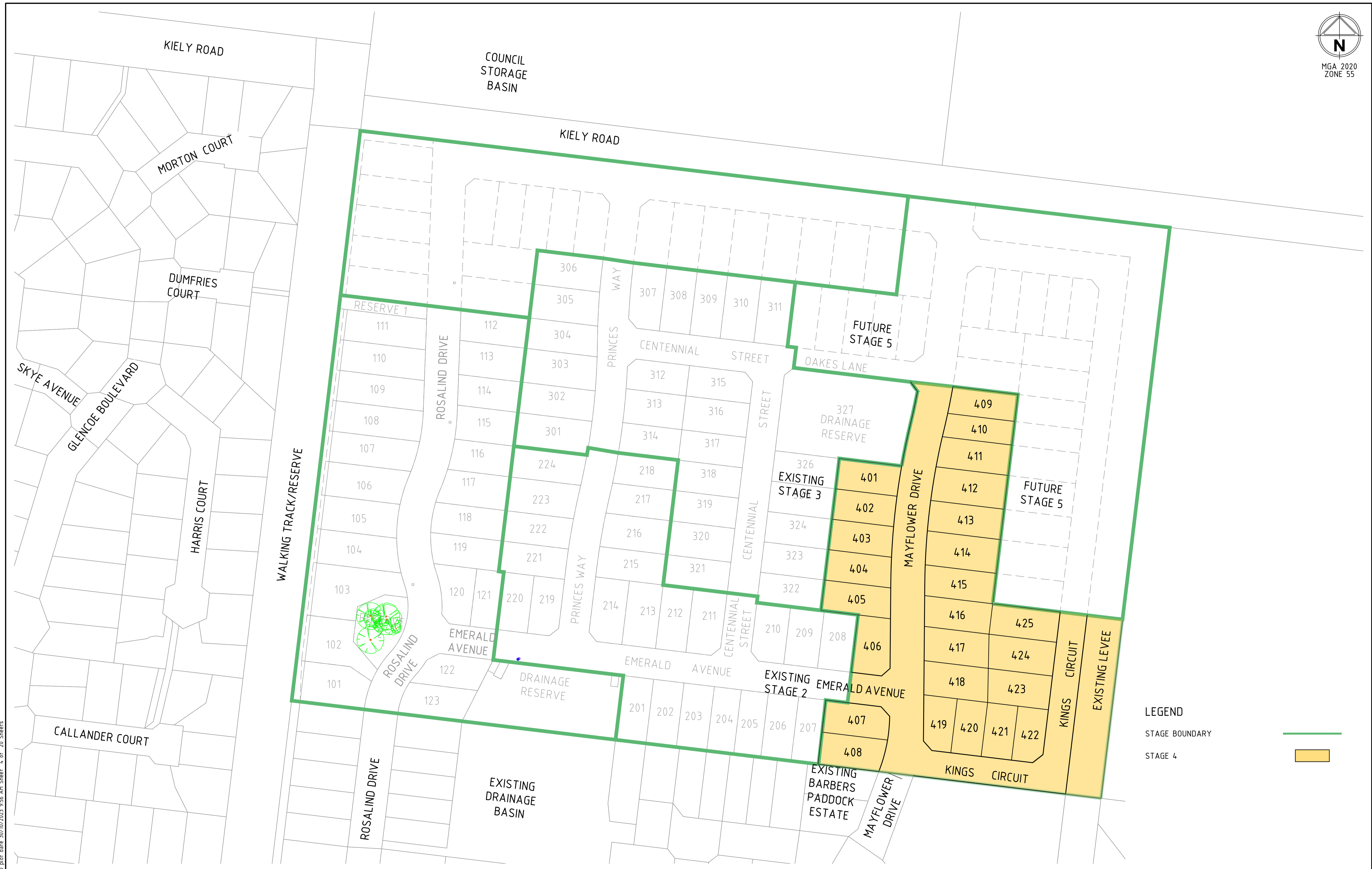
Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 23

**MAIDENS GREEN
STAGE 4
GENERAL ARRANGEMENT PLAN
SHEET 1**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 310098CC005 **0**

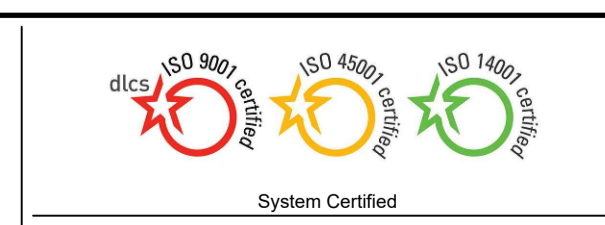
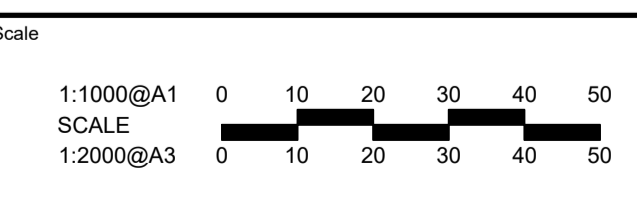
file name: 310098CC005.dwg; layout: A3; plot date: 30/10/2023 9:55 AM; sheet: 3 of 20 sheets



LEGEND
STAGE BOUNDARY
STAGE 4

file name: 310098CC025.dwg; layout: 01; plot date: 30/10/2023 9:55 AM; sheet: 4 of 20 sheets
file location: G:\310098\Civil\A3\A3.dwg; plot date: 30/10/2023 9:55 AM; sheet: 4 of 20 sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

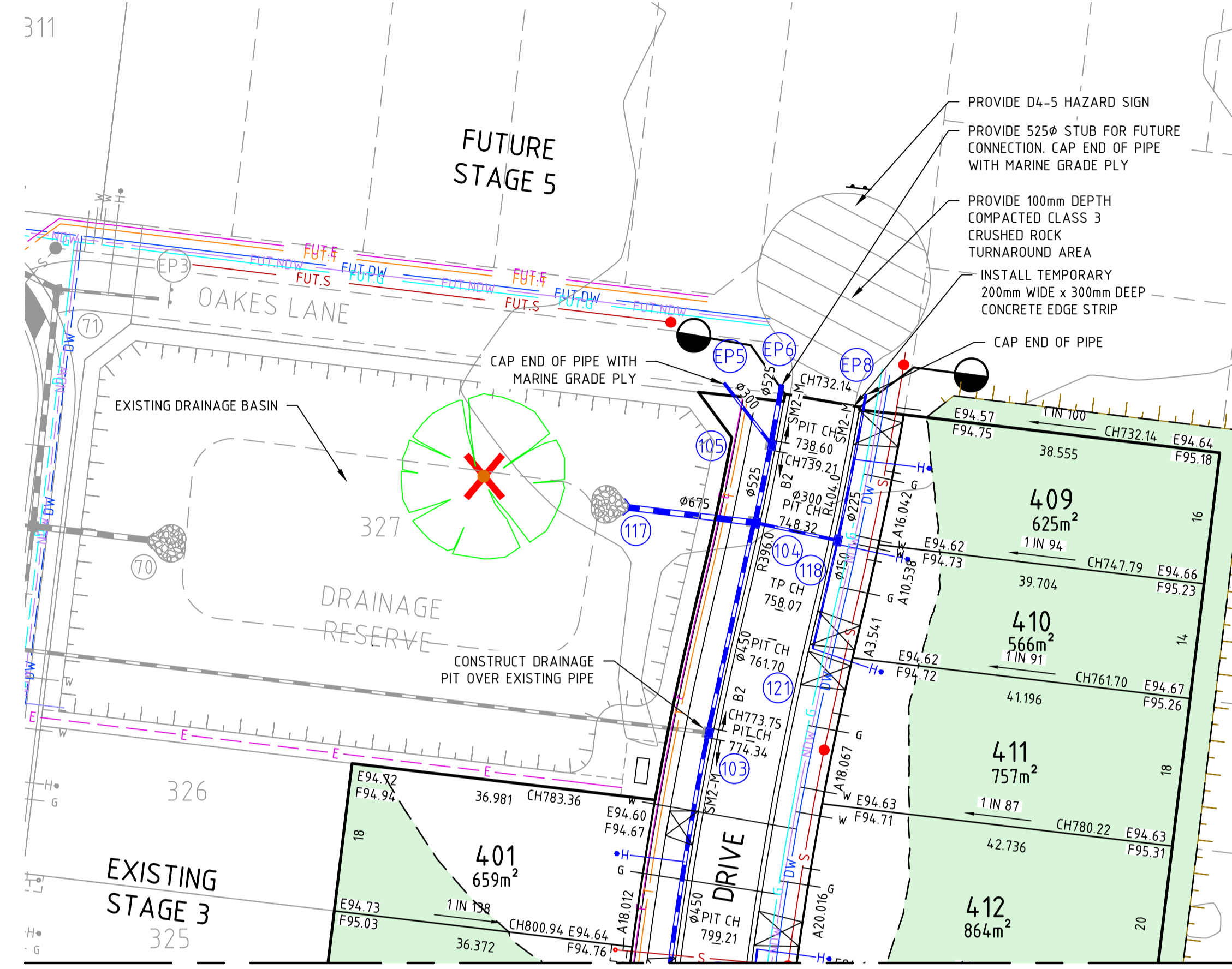
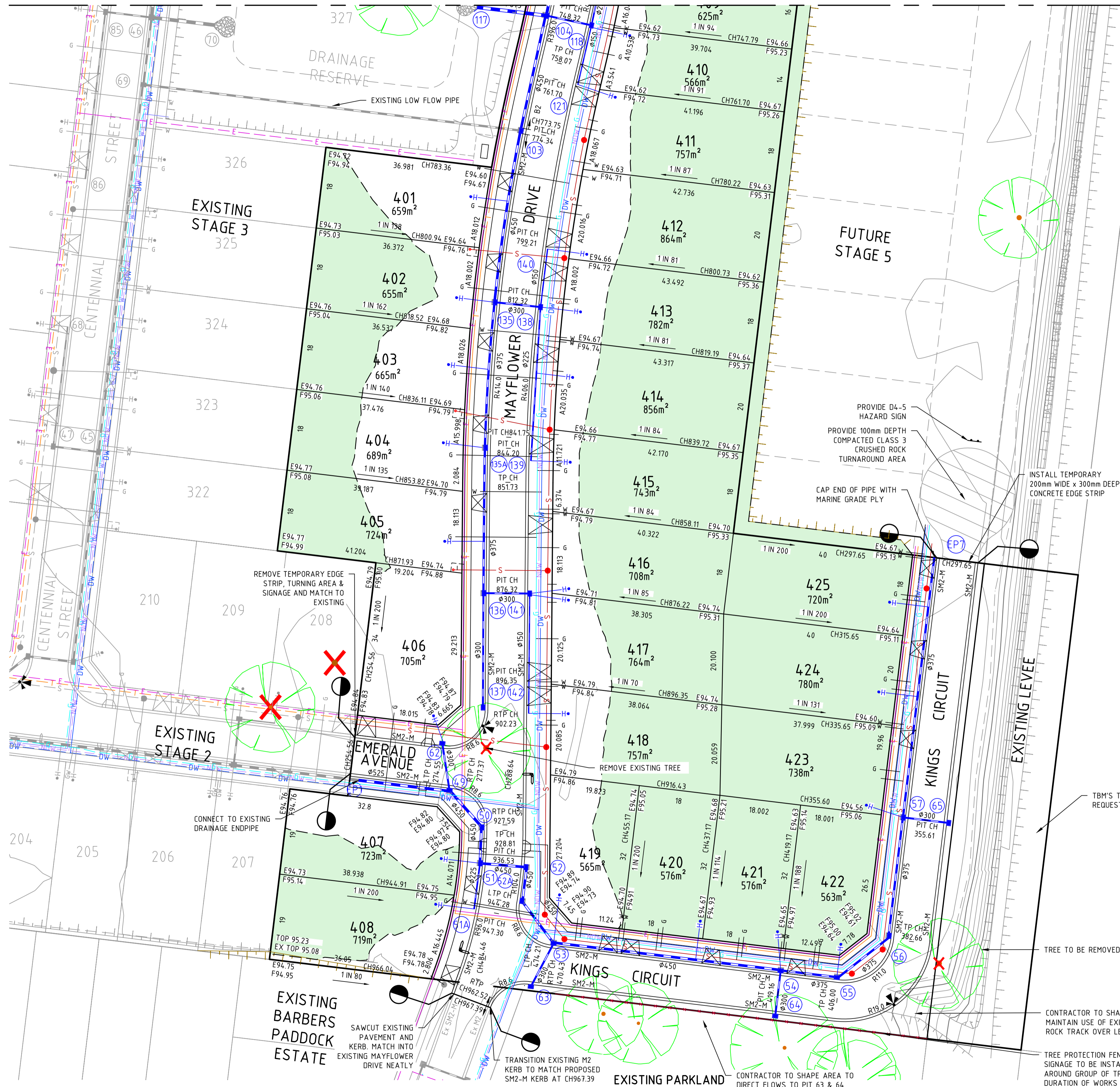
Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 23

MAIDENS GREEN
STAGE 4
STAGING PLAN
SHEET 1
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD
CONSTRUCTION Dwg No 310098CC025 Rev 0



FOR CONTINUATION REFER RIGHT



FOR CONTINUATION REFER LEFT

file name: 310098CC030.dwg; layout name: CC030; plotted by: Isaac_Buff; file location: G:\310098\310098\Civil\A3.dwg; plot date: 30/10/2023; 9:55 AM; Sheet 5 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23

Scale: 1:500@A1, 1:1000@A3

MIN 3m

THE PRE-APPROVED PREFERRED DRIVEWAY LOCATIONS SHOWN ON THE PLANS ARE TO BE CONSTRUCTED BY EACH LANDOWNER AT A LATER DATE.

System Certified: ISO 9001, ISO 45001, ISO 14001

© Spiire Australia Pty Ltd All Rights Reserved. This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

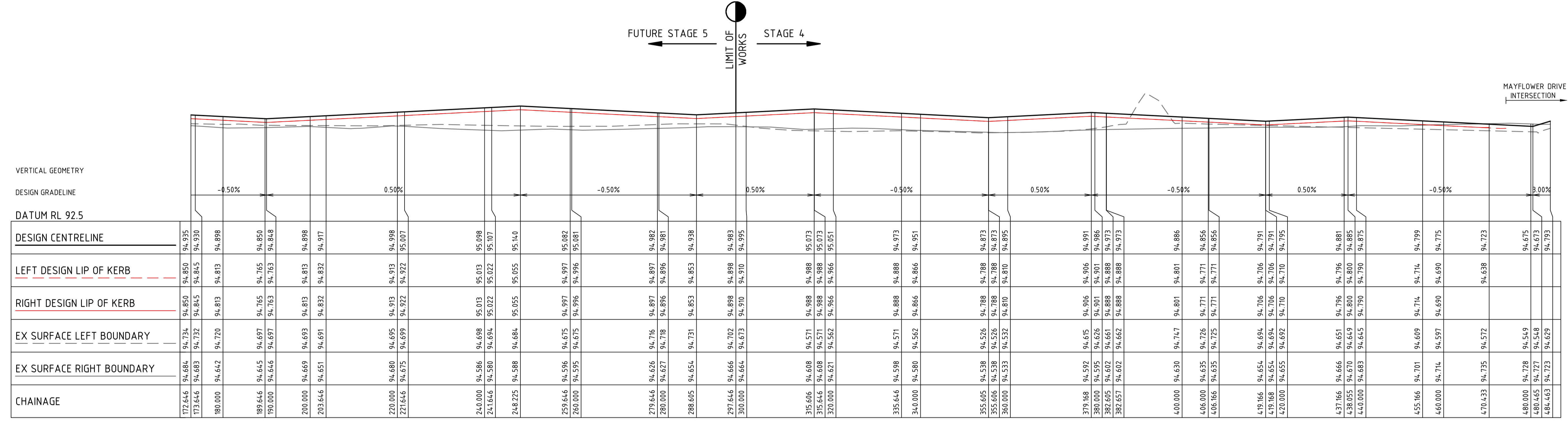
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

MAIDENS GREEN STAGE 4 ROAD LAYOUT PLAN SHEET 1
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 310098CC030 **0**

file name: 310098CC100.dwg layout: roads CC101 plotted by: user: buff file location: \\spire\benidja\310098\civil\A3\310098.dwg plot date: 30/10/2023 9:57 AM Sheet 7 of 20 Sheets



VERTICAL GEOMETRY

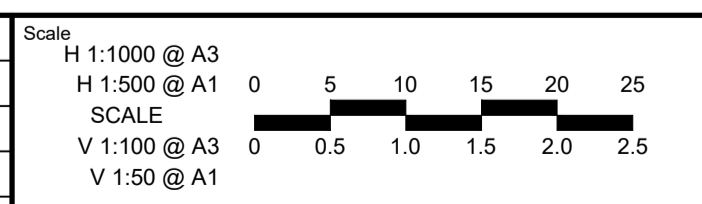
DESIGN GRADELINE

DATUM RL 92.5

CHAINAGE	DESIGN CENTRELINE	LEFT DESIGN LIP OF KERB	RIGHT DESIGN LIP OF KERB	EX SURFACE LEFT BOUNDARY	EX SURFACE RIGHT BOUNDARY
172.646	94.734	94.850	94.850	94.734	94.850
173.646	94.683	94.845	94.845	94.732	94.830
180.000	94.642	94.813	94.813	94.720	94.898
189.646	94.645	94.765	94.765	94.697	94.850
190.000	94.646	94.763	94.763	94.697	94.848
200.000	94.669	94.813	94.813	94.693	94.898
203.646	94.651	94.832	94.832	94.691	94.917
220.000	94.680	94.913	94.913	94.695	94.998
221.646	94.675	94.922	94.922	94.699	95.007
240.000	94.586	95.013	95.013	94.698	95.098
241.646	94.580	95.022	95.022	94.694	95.107
248.225	94.588	95.055	95.055	94.684	95.140
259.646	94.596	94.997	94.997	94.675	95.082
260.000	94.595	94.996	94.996	94.675	95.081
279.646	94.626	94.897	94.897	94.716	94.982
280.000	94.627	94.896	94.896	94.718	94.981
288.605	94.654	94.853	94.853	94.731	94.938
297.646	94.666	94.898	94.898	94.702	94.983
300.000	94.664	94.910	94.910	94.673	94.995
315.606	94.608	94.988	94.988	94.571	95.073
315.646	94.608	94.988	94.988	94.571	95.073
320.000	94.621	94.966	94.966	94.562	95.051
335.646	94.598	94.888	94.888	94.571	94.973
340.000	94.580	94.866	94.866	94.562	94.951
355.605	94.538	94.788	94.788	94.526	94.873
355.606	94.538	94.788	94.788	94.526	94.873
360.000	94.533	94.810	94.810	94.532	94.895
379.168	94.592	94.906	94.906	94.615	94.991
380.000	94.595	94.901	94.901	94.626	94.986
382.605	94.602	94.888	94.888	94.661	94.973
382.657	94.602	94.888	94.888	94.662	94.973
400.000	94.630	94.801	94.801	94.747	94.886
406.000	94.635	94.771	94.771	94.726	94.856
406.166	94.635	94.771	94.771	94.725	94.856
419.166	94.654	94.706	94.706	94.694	94.791
419.168	94.654	94.706	94.706	94.694	94.791
420.000	94.655	94.710	94.710	94.692	94.795
437.166	94.666	94.651	94.651	94.796	94.881
438.055	94.670	94.649	94.649	94.800	94.885
440.000	94.683	94.645	94.645	94.790	94.875
455.166	94.701	94.609	94.609	94.714	94.799
460.000	94.714	94.597	94.597	94.690	94.775
470.433	94.735	94.572	94.572	94.638	94.723
480.000	94.728	94.549	94.549	94.675	94.675
480.465	94.727	94.548	94.548	94.673	94.673
484.463	94.723	94.629	94.629	94.673	94.793

KINGS CIRCUIT

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F	18/09/23
A	ISSUED FOR APPROVAL	J.F	22/02/23



System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

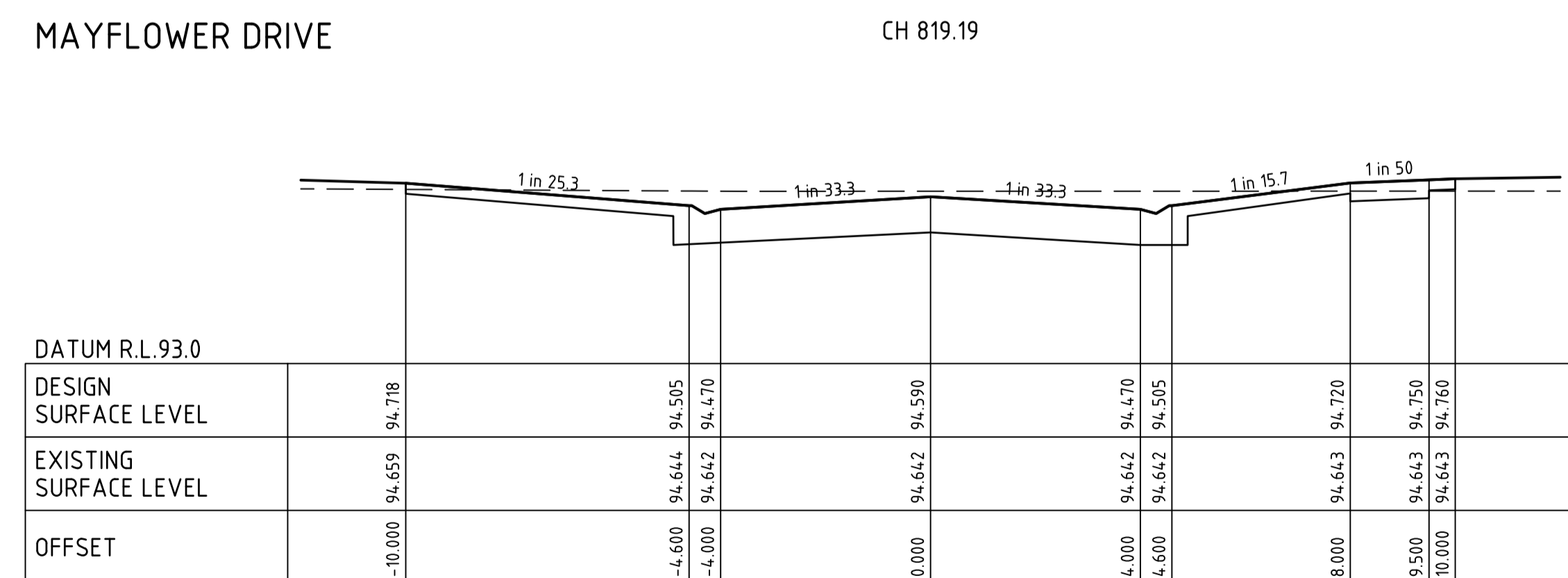
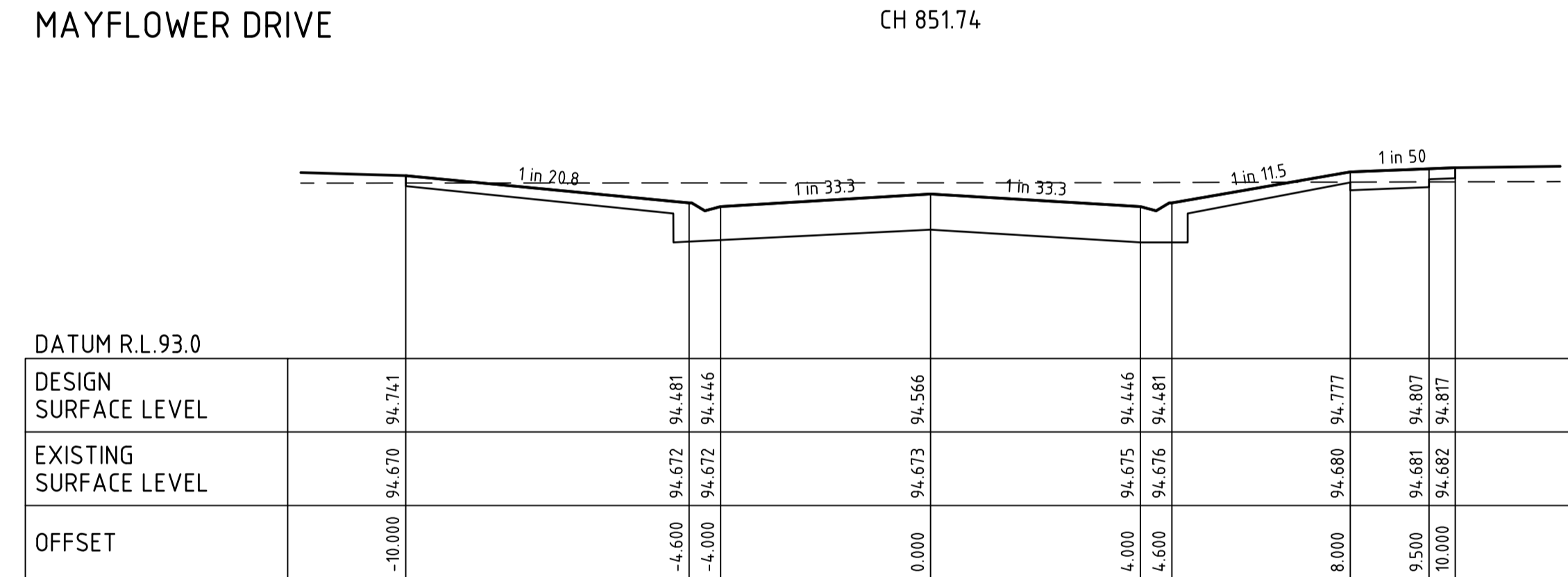
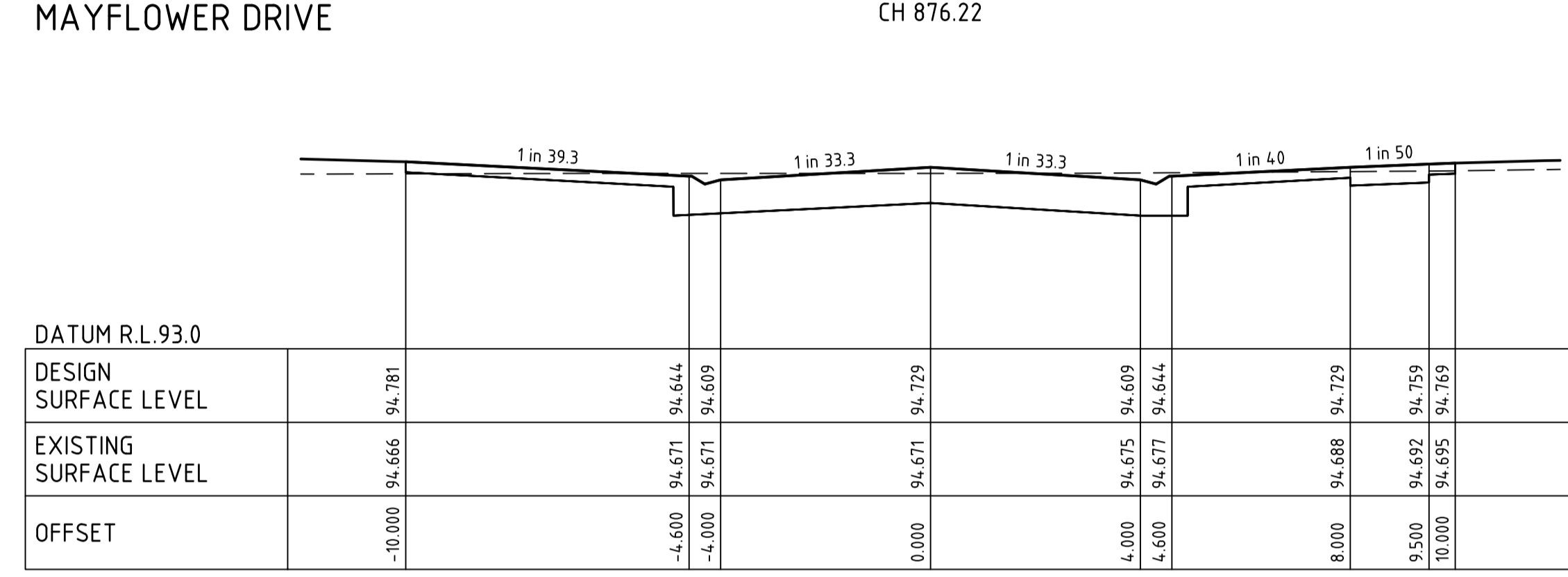
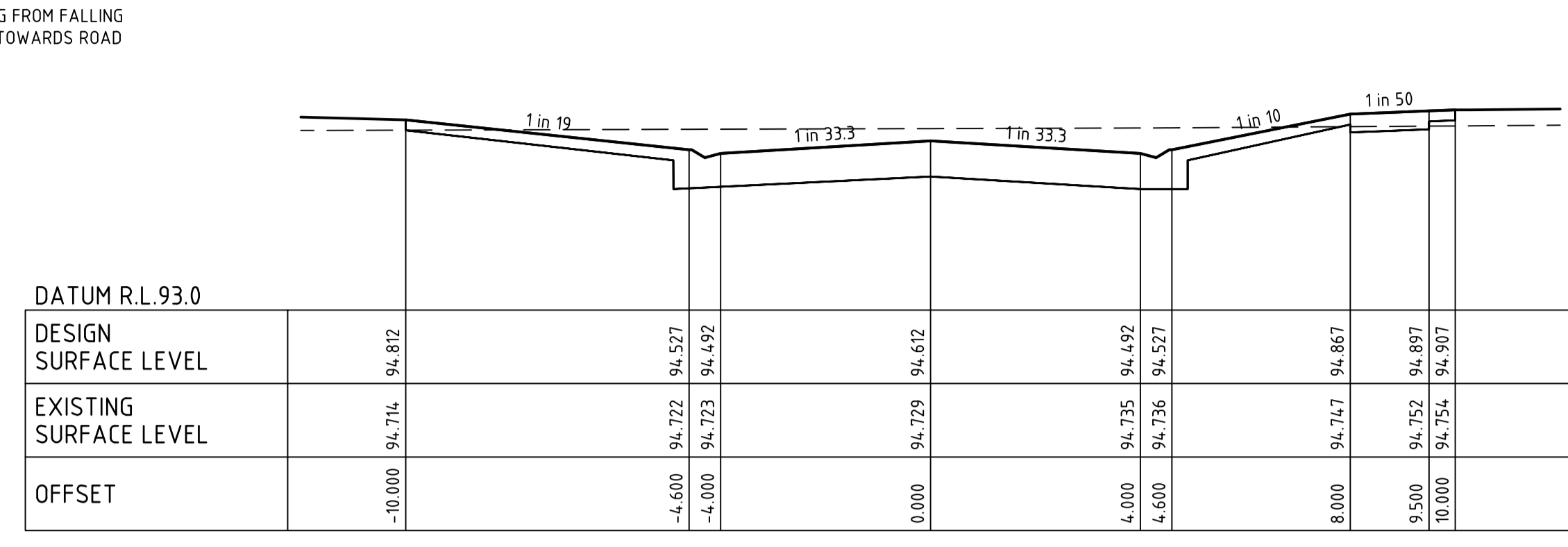
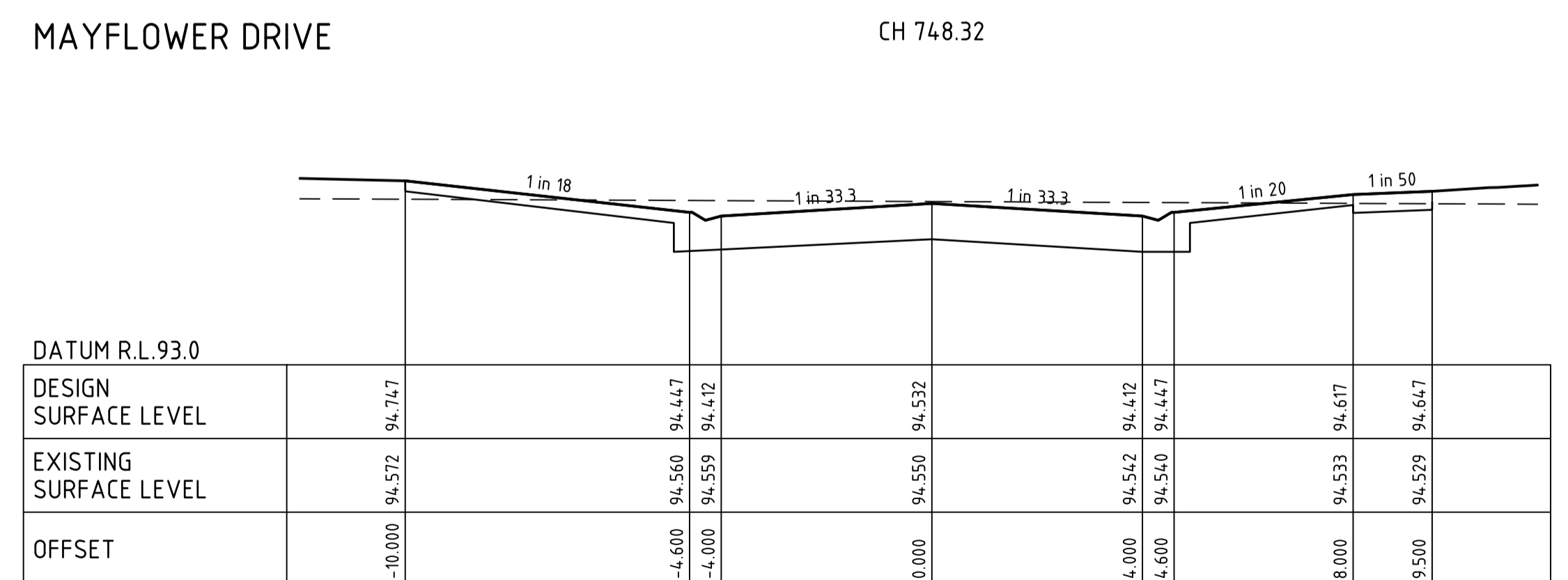
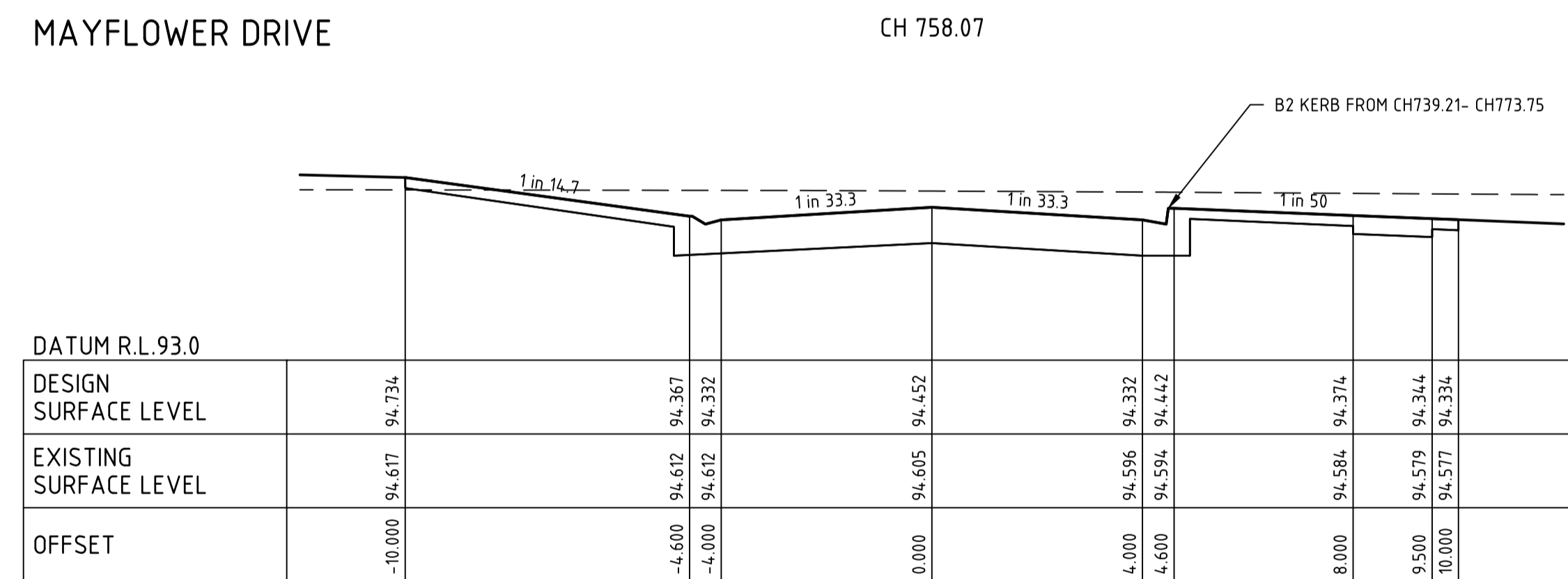
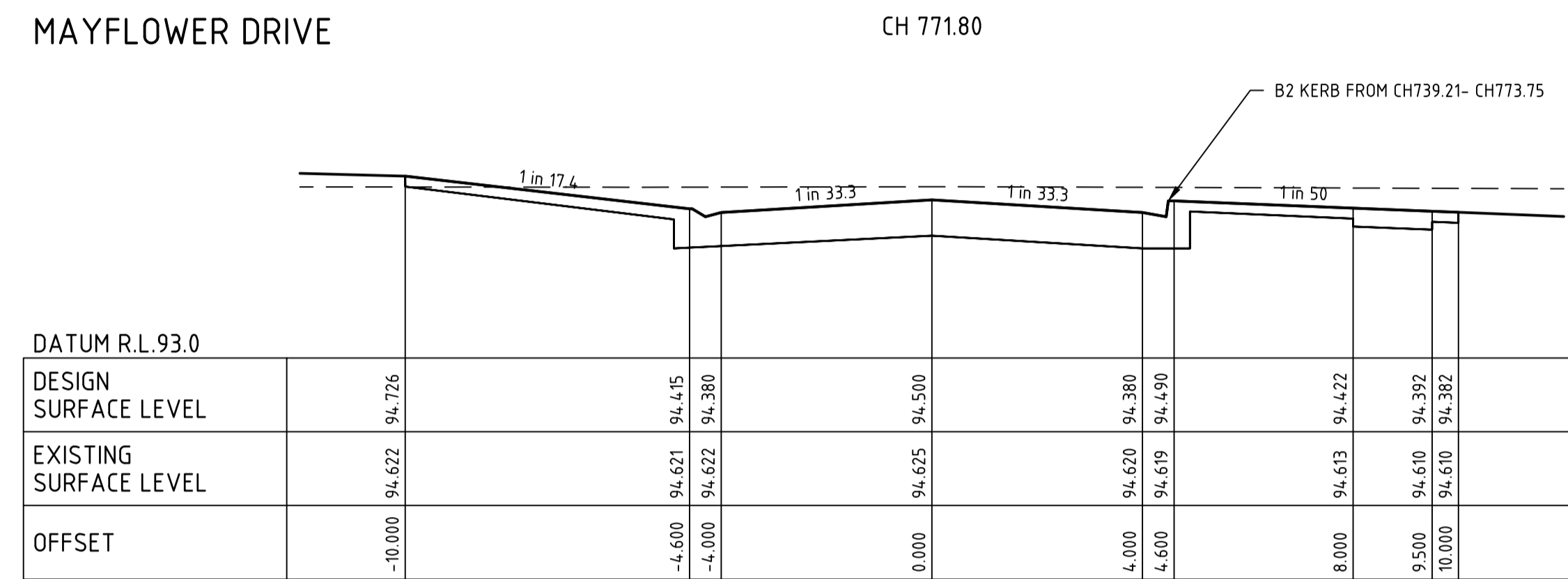
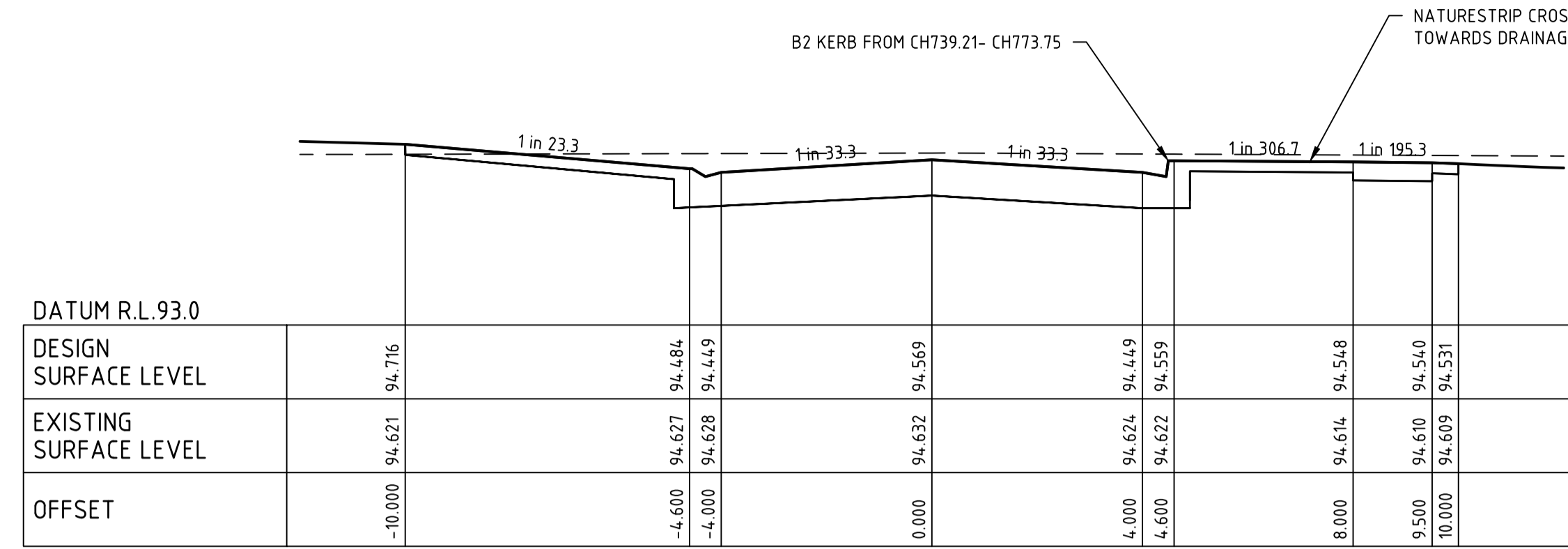
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

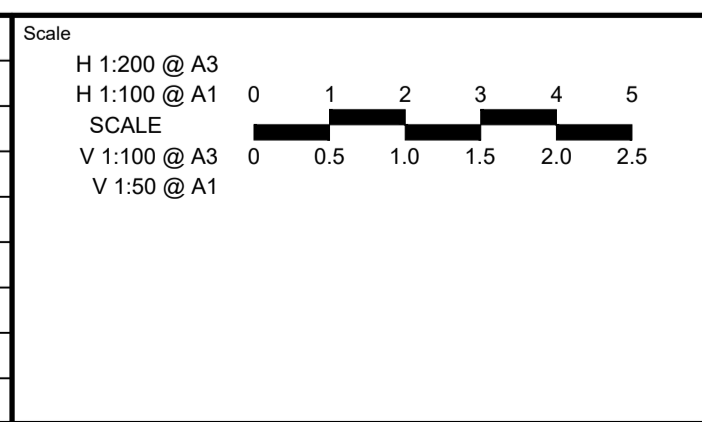
**MAIDENS GREEN
STAGE 4
ROAD LONGITUDINAL SECTIONS
KINGS CIRCUIT**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Dwg No **310098CC101** Rev **0**

file name: 310098CC140.dwg layout: Plans_CCL10 plotted by: Isac Buff file location: G:\310098\civil\ALAD\plan_date_30/10/2023_9:57 AM_Sheet_8 of 20_Sheets



Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F	18/09/23
A	ISSUED FOR APPROVAL	J.F	22/02/23

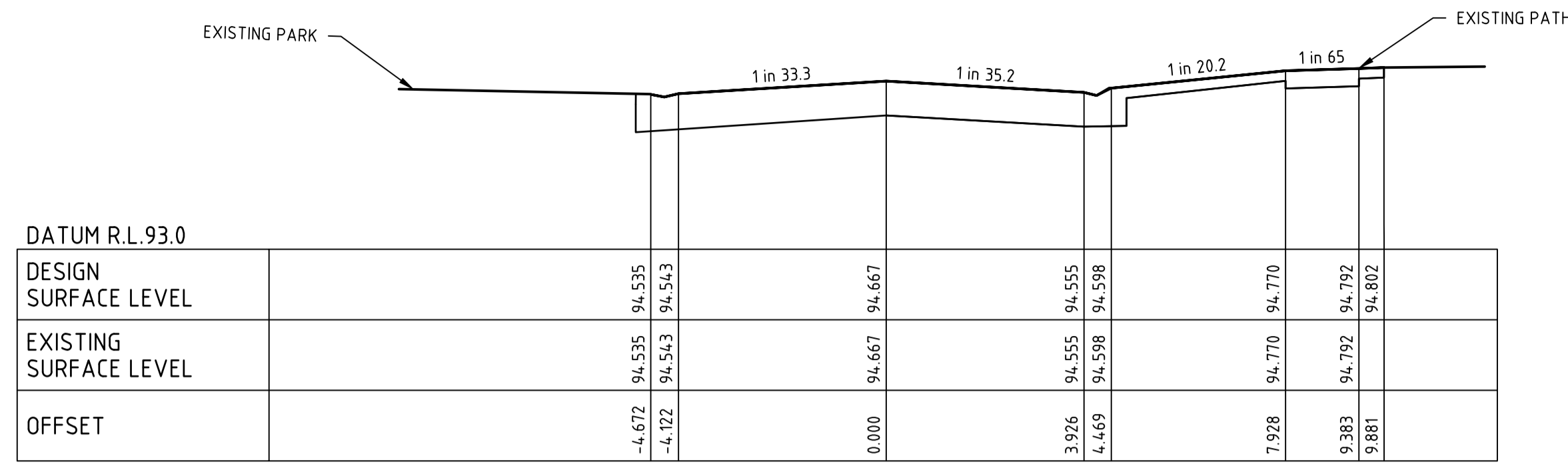


spiire
 16 BRIDGE STREET BENDIGO
 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
 spiire.com.au ABN 55 050 029 635

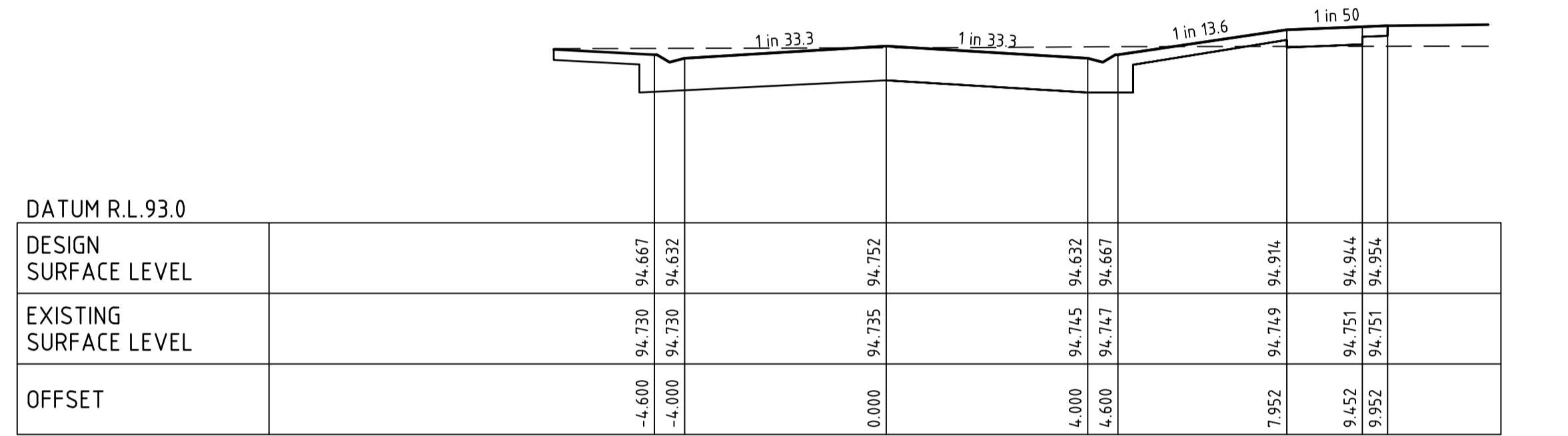
Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

**MAIDENS GREEN
 STAGE 4
 ROAD CROSS SECTIONS
 MAYFLOWER DRIVE
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD**

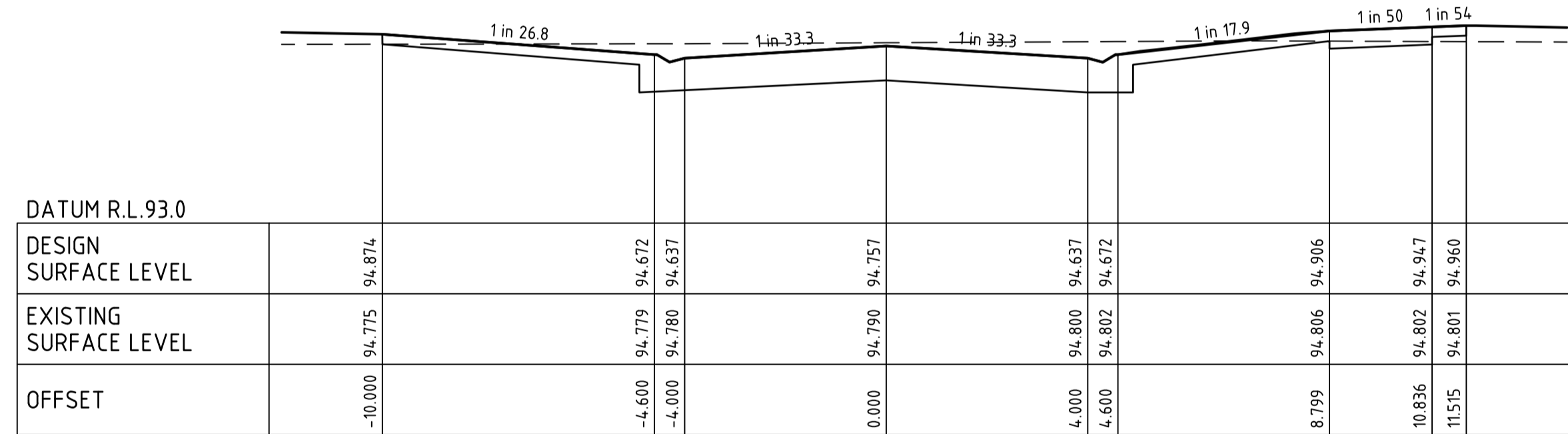
CONSTRUCTION Drg No **310098CC140** Rev **0**



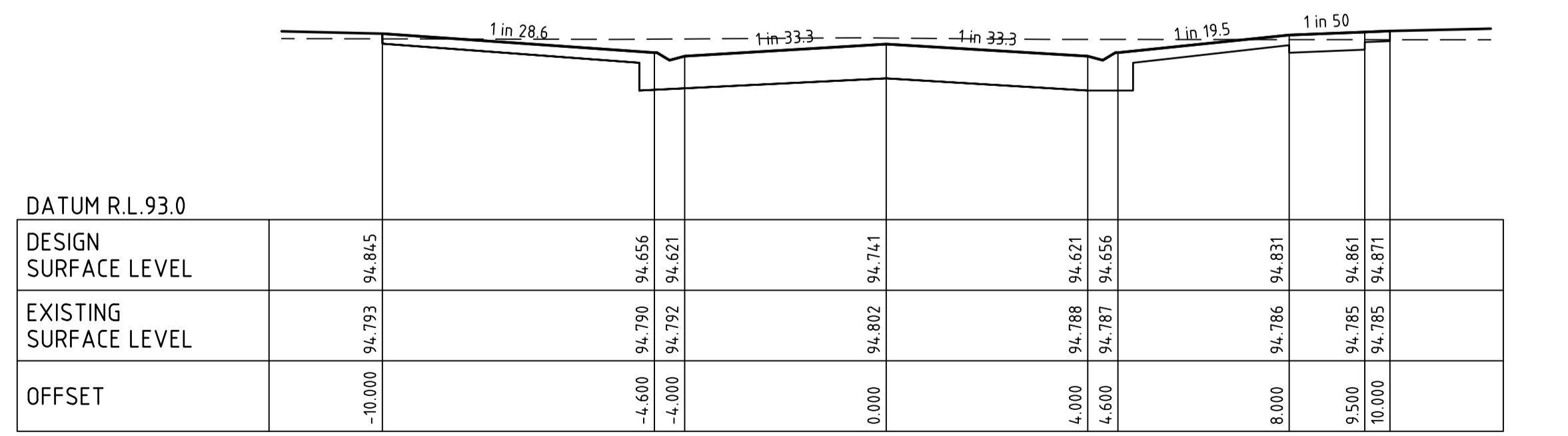
MAYFLOWER DRIVE CH 967.39



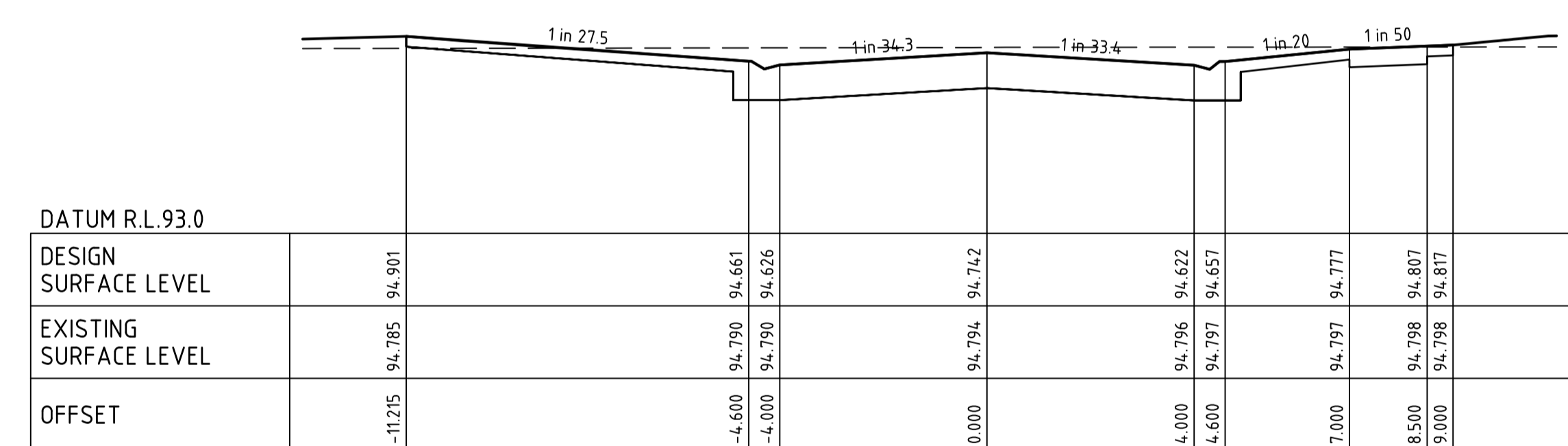
MAYFLOWER DRIVE CH 944.28



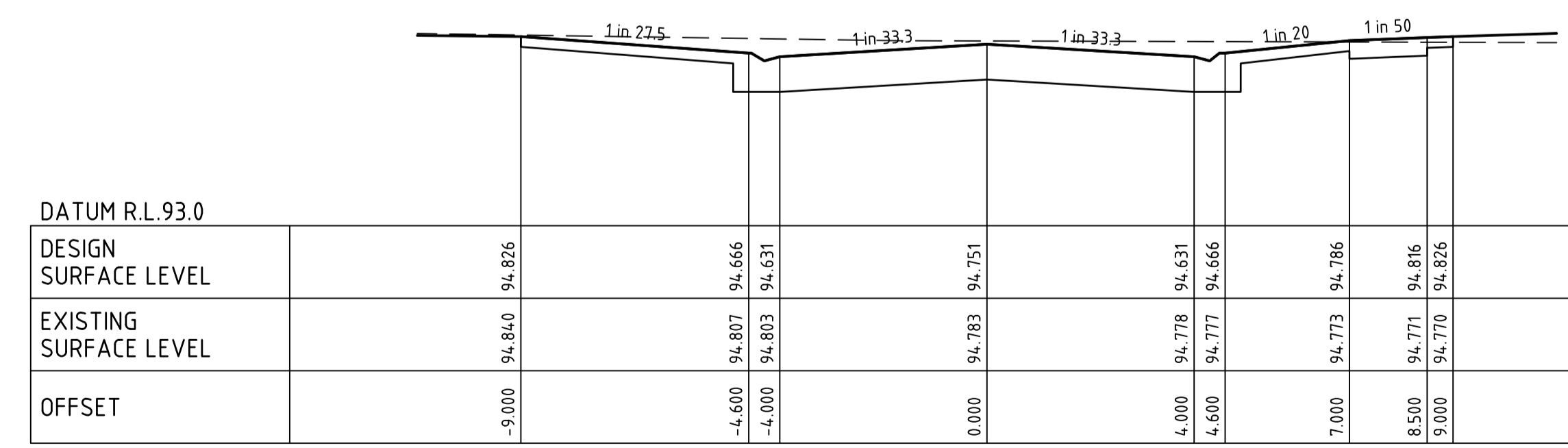
MAYFLOWER DRIVE CH 927.59



MAYFLOWER DRIVE CH 902.23



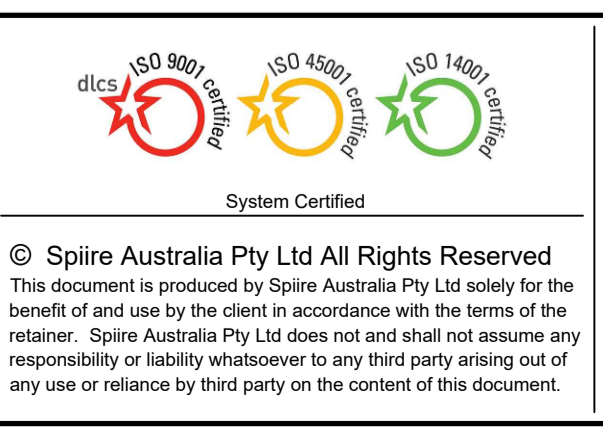
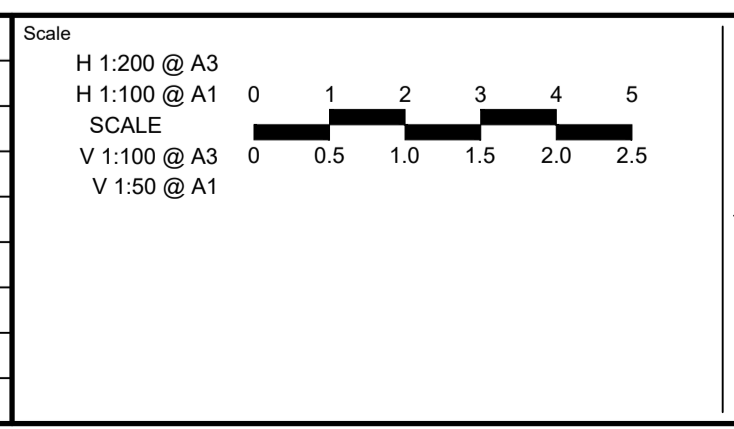
EMERALD AVENUE CH 274.55



EMERALD AVENUE CH 254.56

file name: 310098CC141.dwg, layout: 0000, plotted by: Iscar, Puff, file location: G:\310098\Civil\ALAD\Plot date: 30/10/2023, 9:57 AM, Sheet: 9 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

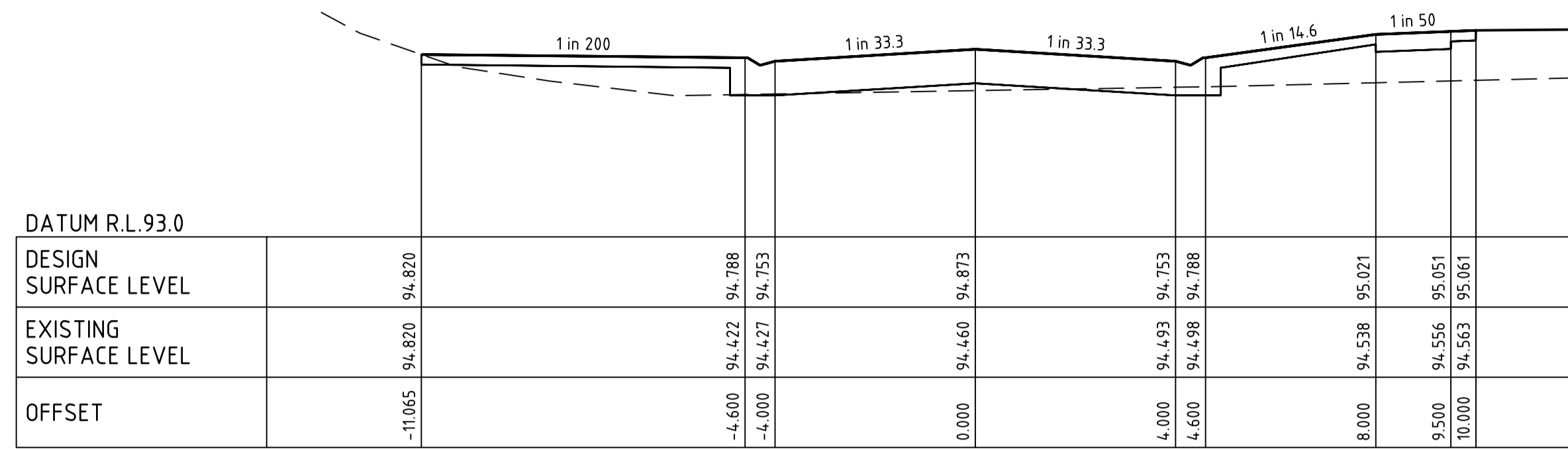
Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

**MAIDENS GREEN
STAGE 4
ROAD CROSS SECTIONS
MAYFLOWER DRIVE & EMERALD AVENUE**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 310098CC141

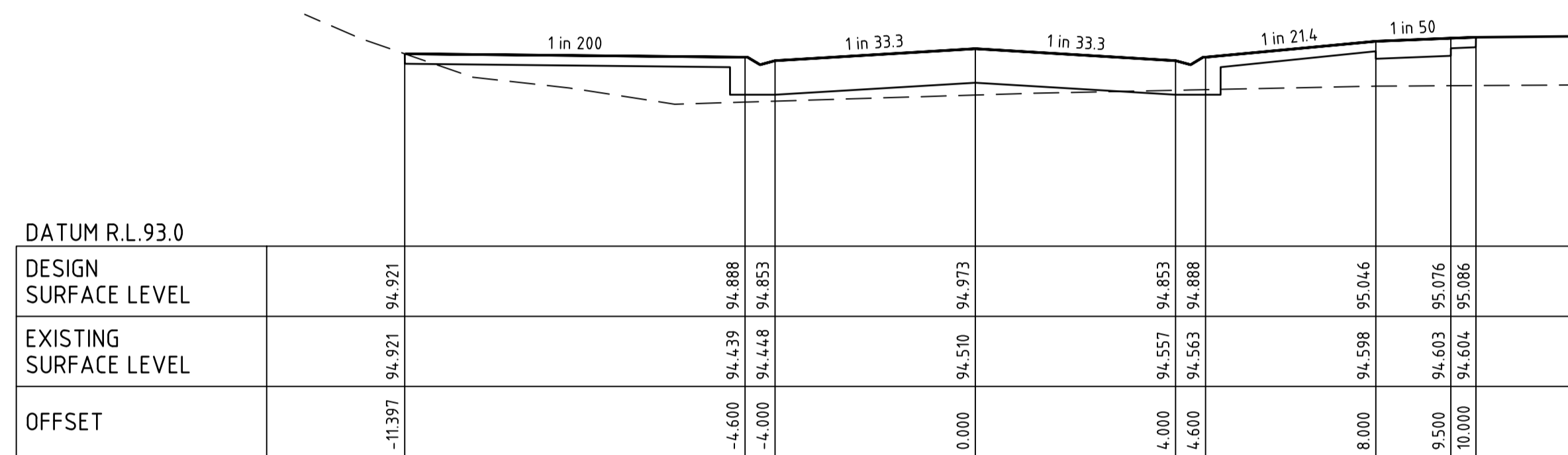
Rev No 0

file name: 310098CC142.dwg layout: 0000.ctb plotted by: isac_buff
 file location: G:\310098\310098\Civil\ALAD\plot_date_30/10/2023_9:57:AM_Sheet_10 of 20_Sheets



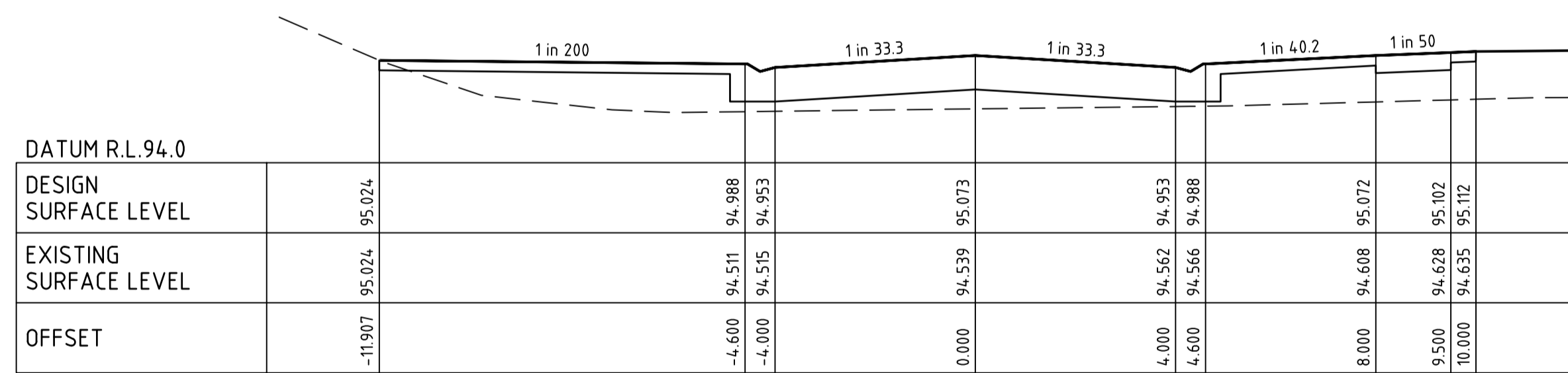
KINGS CIRCUIT

CH 355.61



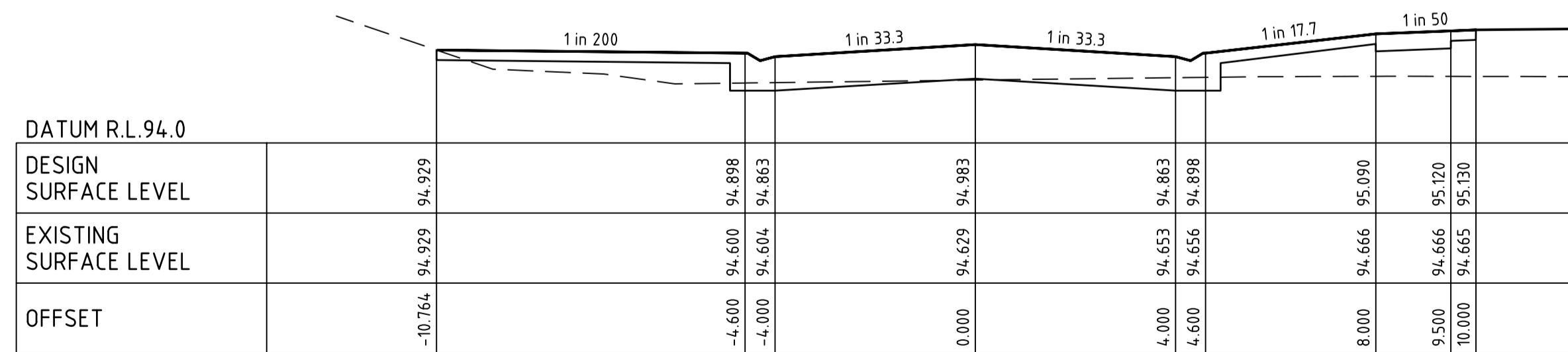
KINGS CIRCUIT

CH 335.65



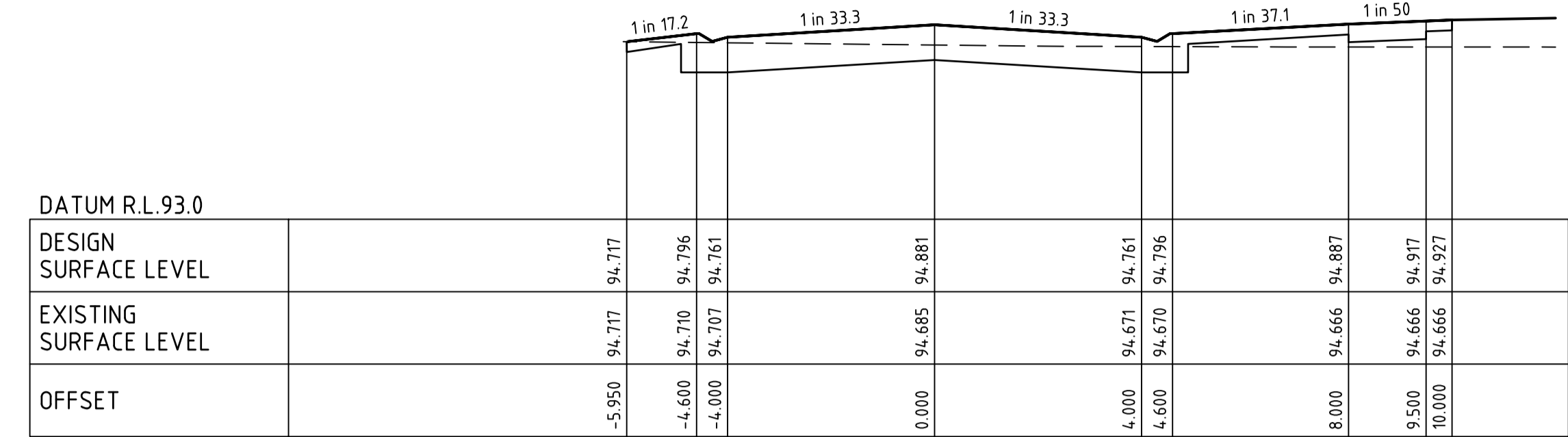
KINGS CIRCUIT

CH 315.65



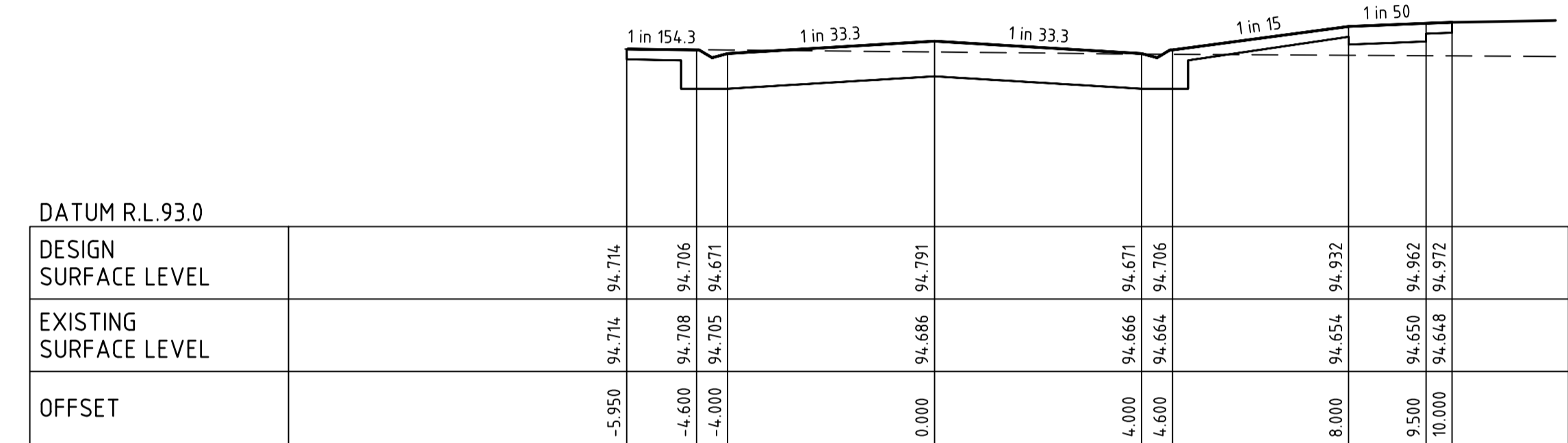
KINGS CIRCUIT

CH 297.65



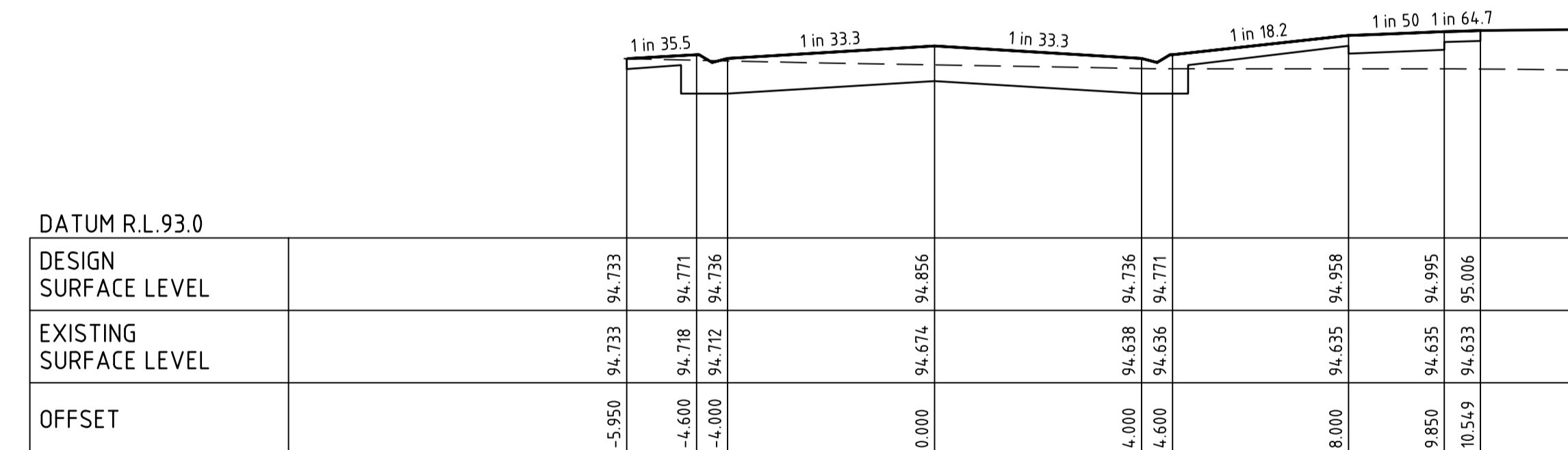
KINGS CIRCUIT

CH 437.17



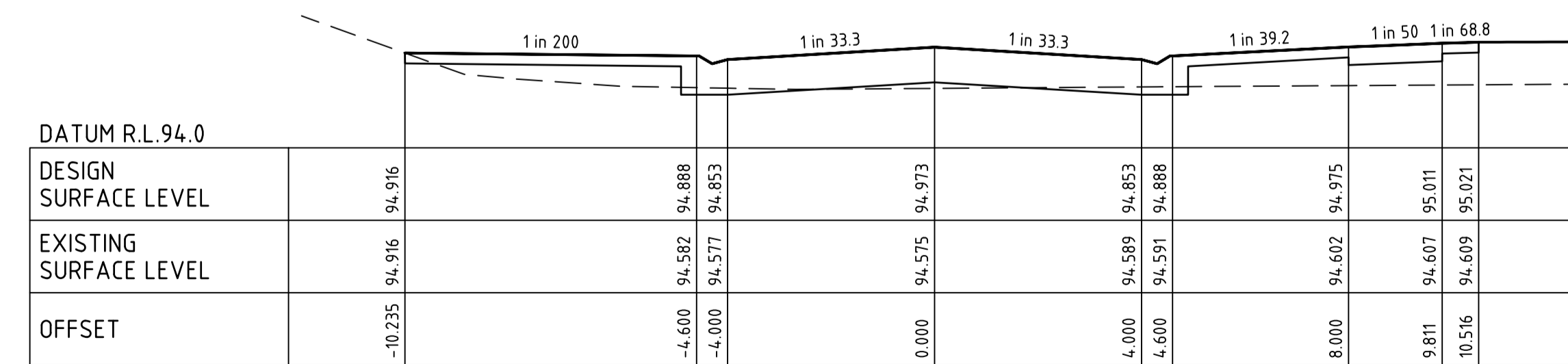
KINGS CIRCUIT

CH 419.17



KINGS CIRCUIT

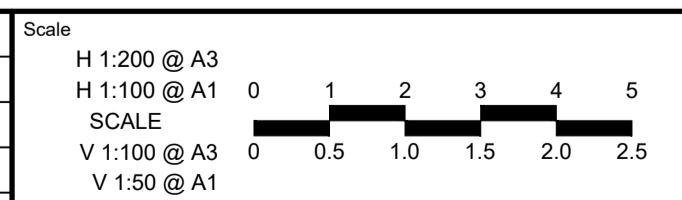
CH 406.00



KINGS CIRCUIT

CH 382.66

0	ISSUED FOR CONSTRUCTION	J.F	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F	18/09/23
A	ISSUED FOR APPROVAL	J.F	22/02/23
Rev	Amendments	Approved	Date



© Spiire Australia Pty Ltd All Rights Reserved
 This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

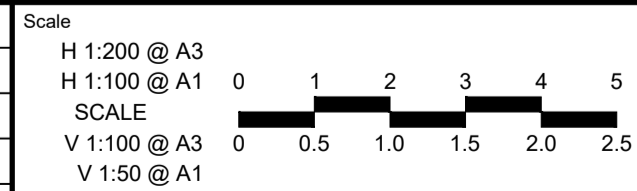
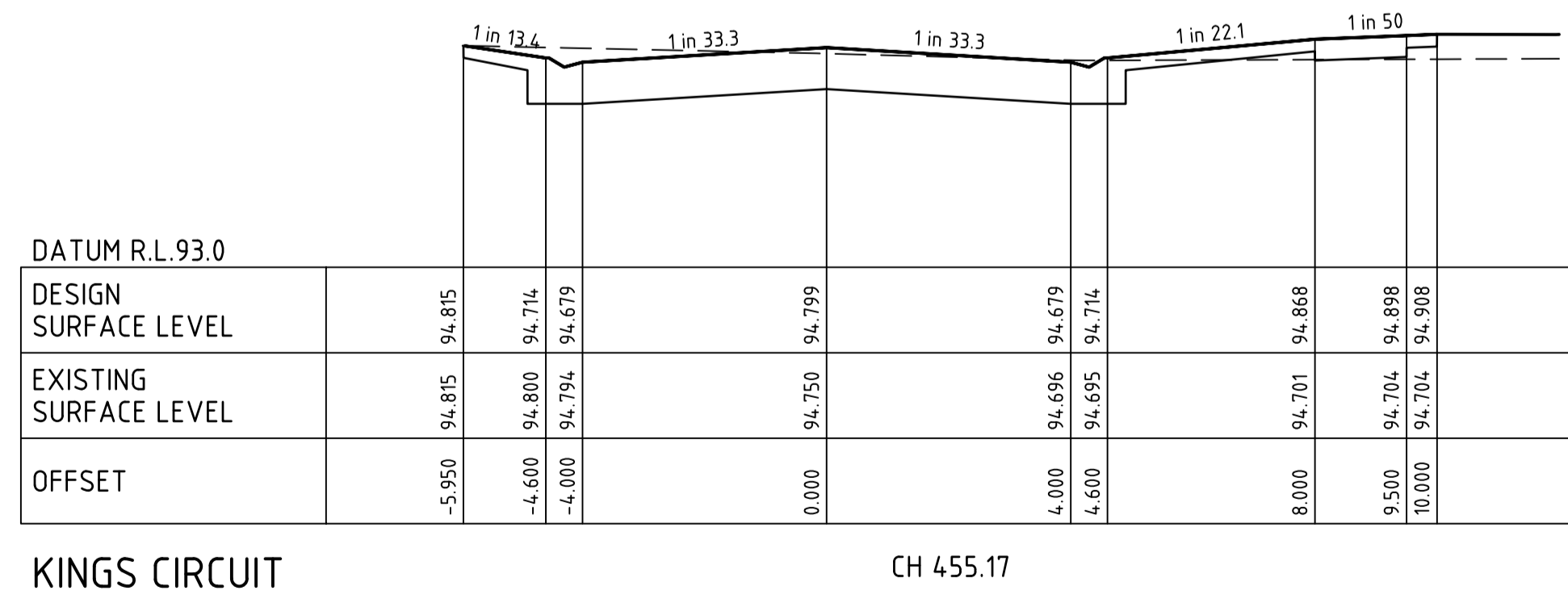
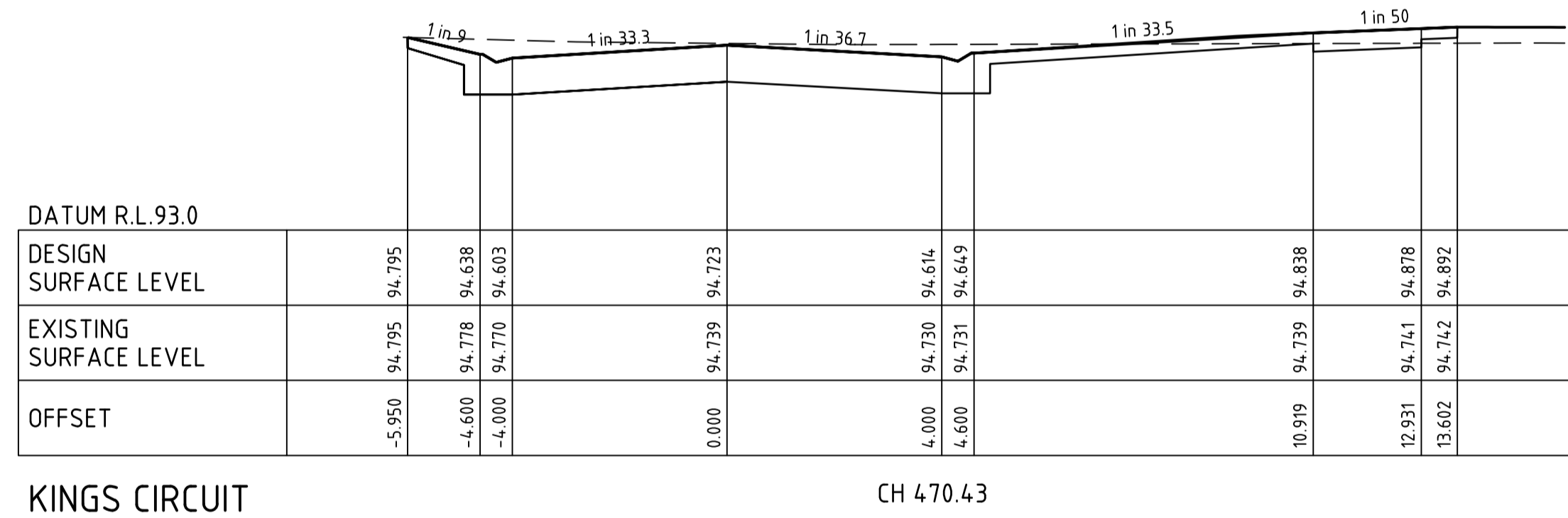
spiire
 16 BRIDGE STREET BENDIGO
 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
 spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

**MAIDENS GREEN
 STAGE 4
 ROAD CROSS SECTIONS
 KINGS CIRCUIT**
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No **310098CC142** Rev **0**

file name: 310098CC143.dwg layout: Dwg_CCL13 plotted by: Isaac_Buff
 file location: G:\310098\Civil\CLAD\Plan date: 30/10/2023 9:57 AM Sheet 11 of 20 Sheets



© Spiire Australia Pty Ltd All Rights Reserved
 This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



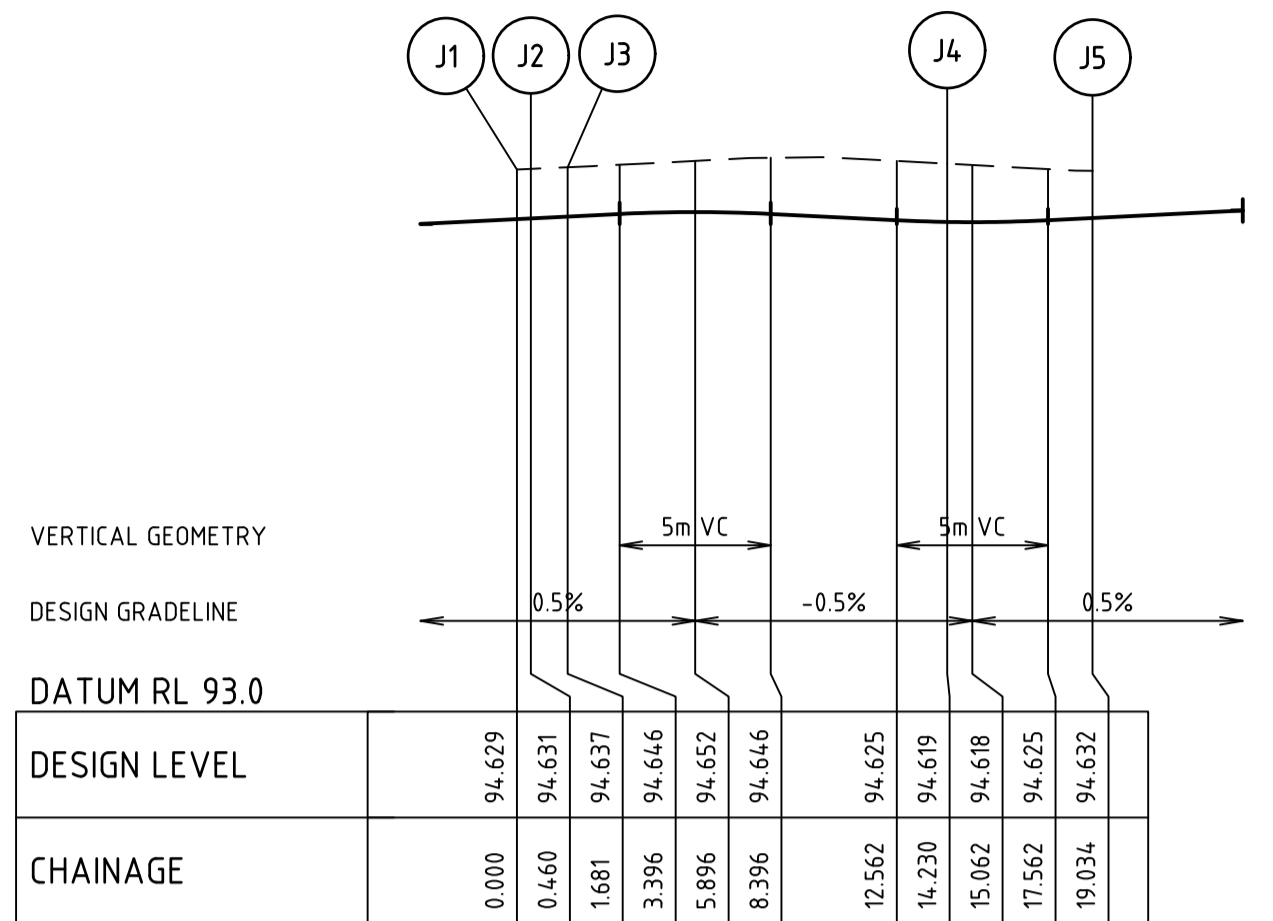
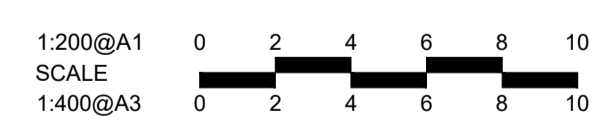
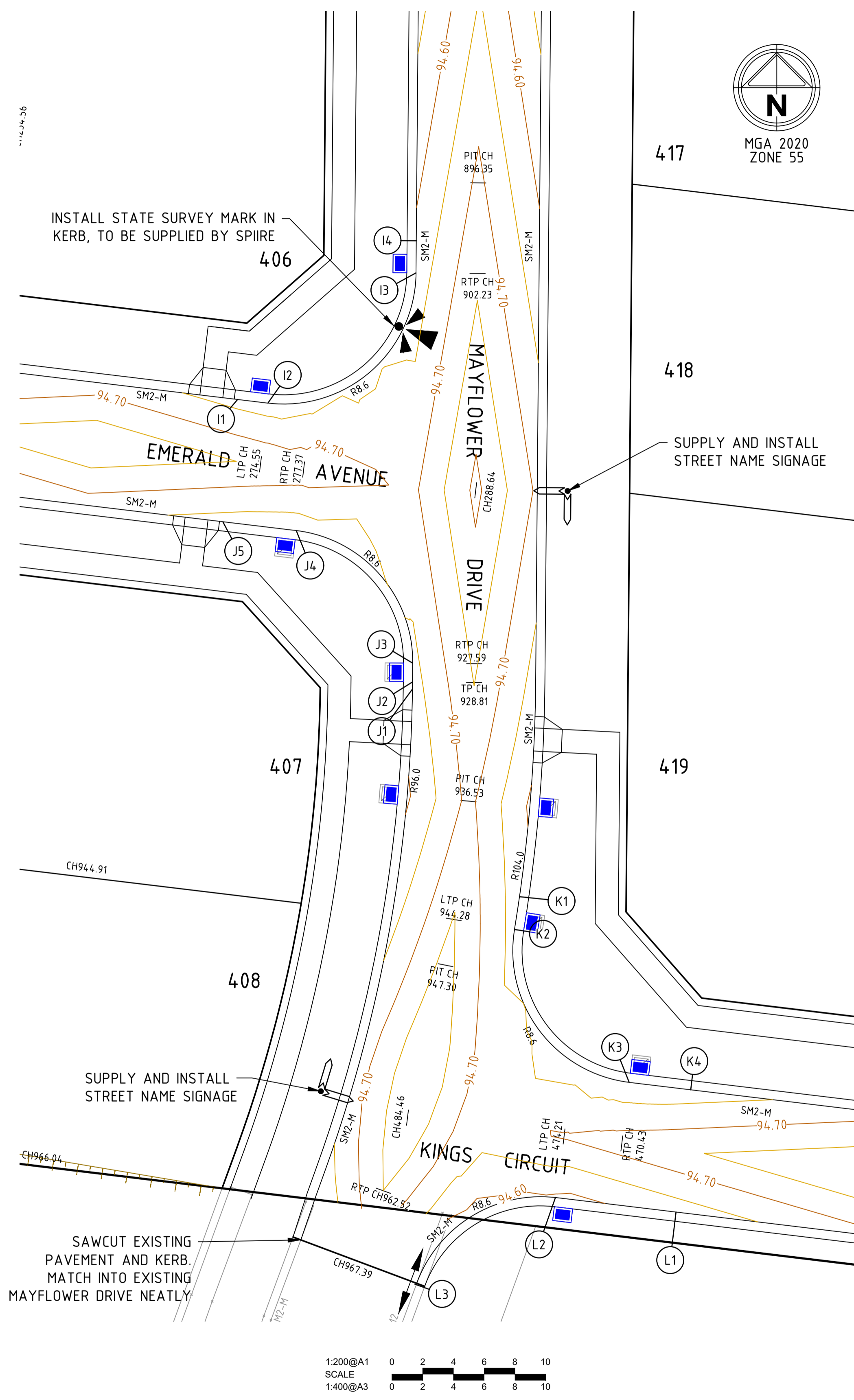
16 BRIDGE STREET BENDIGO
 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
 spiire.com.au ABN 55 050 029 635

Designed
 D.SHEEHAN
 Authorised
 J.FEHRING

Checked
 B.IBBS
 Date
 OCT 23

**MAIDENS GREEN
 STAGE 4
 ROAD CROSS SECTIONS
 KINGS CIRCUIT**
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

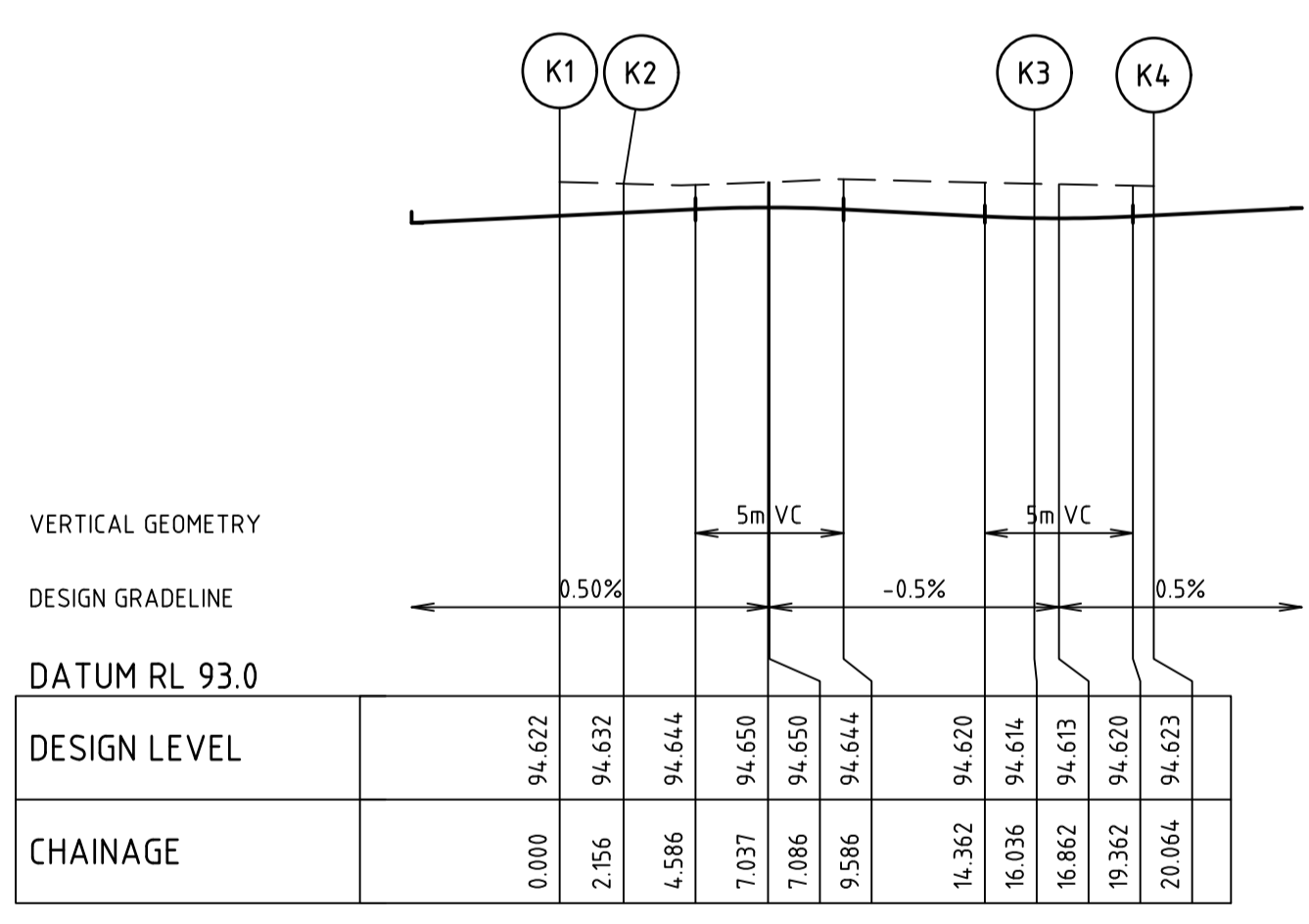
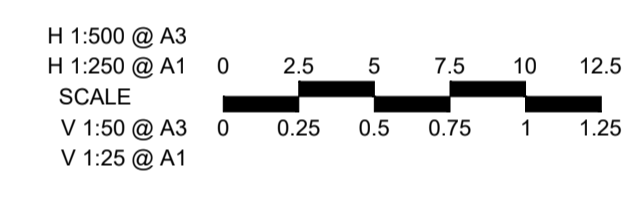
CONSTRUCTION Dwg No **310098CC143** Rev **0**



ALIGNMENT J

POINT NO	EASTING	NORTHING	RL	CHAINAGE
J1	299226.352	6002653.002	94.629	0.000
J2	299226.357	6002653.462	94.631	0.460
J3	299226.368	6002654.683	94.637	1.681
J4	299225.828	6002657.756	94.651	4.818
J5	299224.227	6002660.434	94.648	7.956
J6	299221.776	6002662.364	94.632	11.093
J7	299218.798	6002663.294	94.619	14.230
J8	299214.028	6002663.869	94.632	19.034

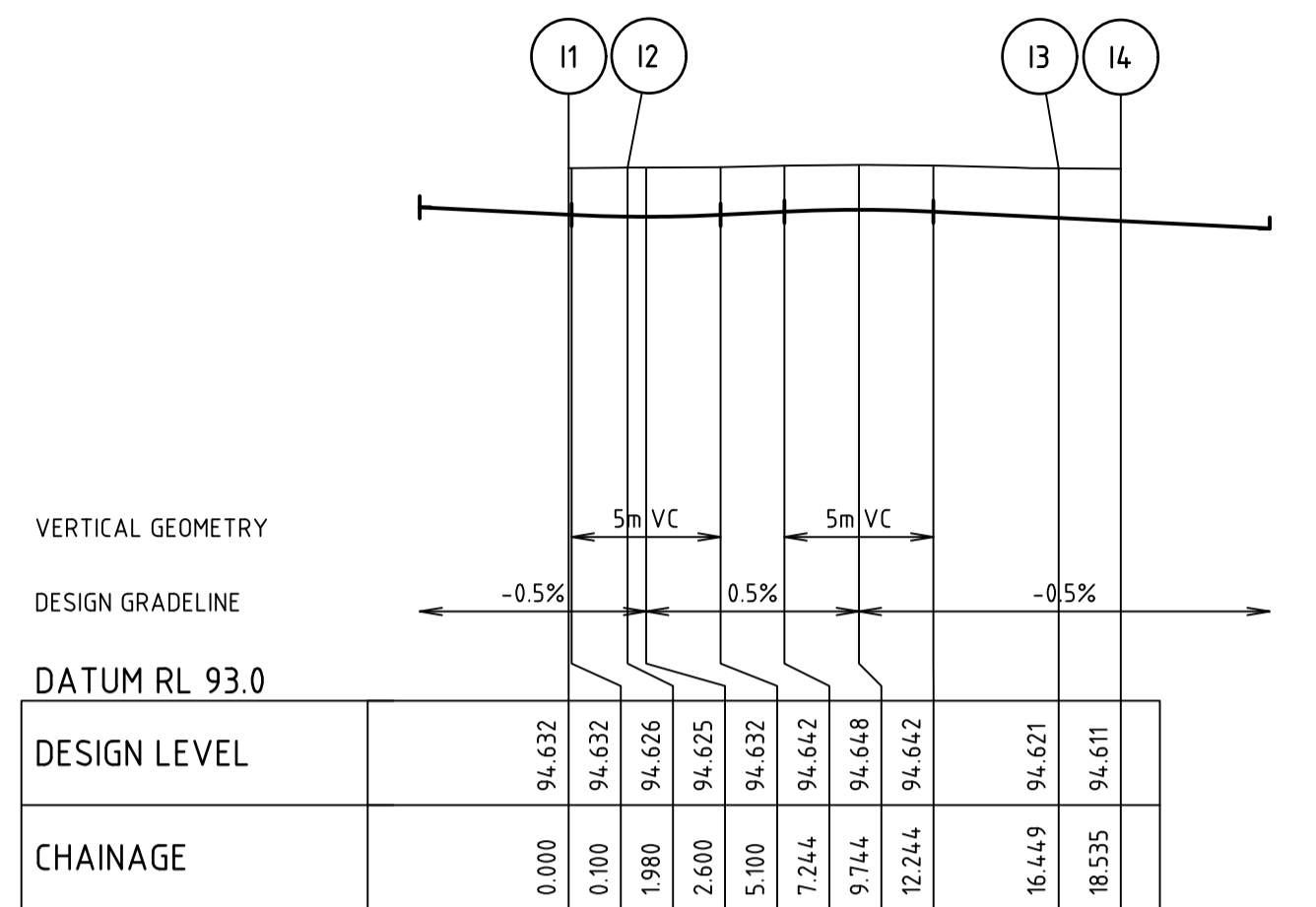
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
J3-J4	8.600	12.549	11.465	2.189	0.566



ALIGNMENT K

POINT NO	EASTING	NORTHING	RL	CHAINAGE
K1	299233.308	6002639.510	94.622	0.000
K2	299232.980	6002637.379	94.632	2.156
K3	299233.113	6002633.936	94.648	5.626
K4	299234.587	6002630.821	94.646	9.096
K5	299237.166	6002628.534	94.629	12.566
K6	299240.436	6002627.445	94.614	16.036
K7	299244.435	6002626.962	94.623	20.064

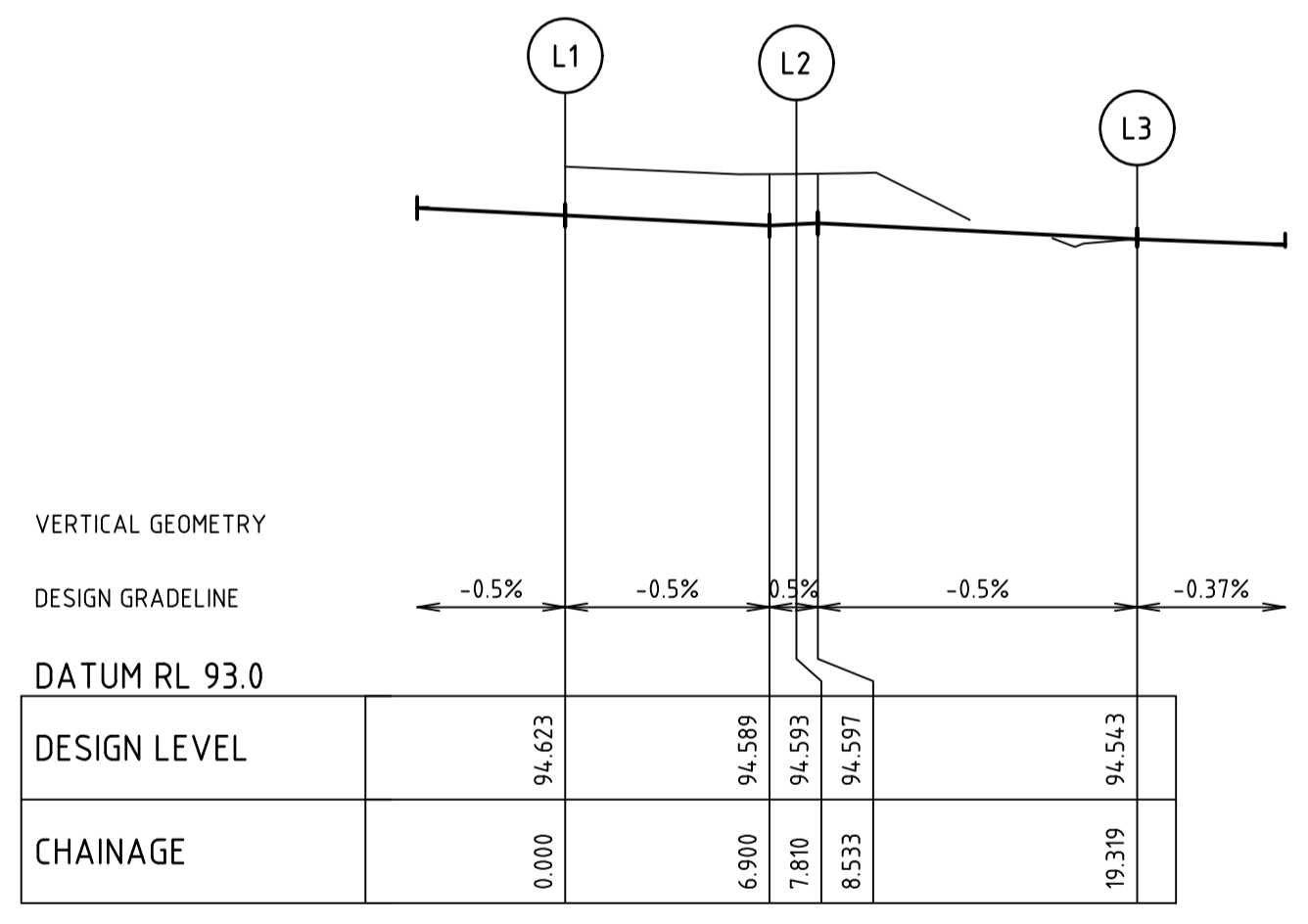
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
K2-K3	8.600	13.880	12.422	2.651	0.691



ALIGNMENT I

POINT NO	EASTING	NORTHING	RL	CHAINAGE
I1	299214.986	6002671.811	94.632	0.000
I2	299216.952	6002671.574	94.626	1.980
I3	299220.528	6002671.898	94.634	5.597
I4	299223.660	6002673.653	94.648	9.215
I5	299225.802	6002676.535	94.639	12.832
I6	299226.581	6002680.040	94.621	16.449
I7	299226.599	6002682.126	94.611	18.535

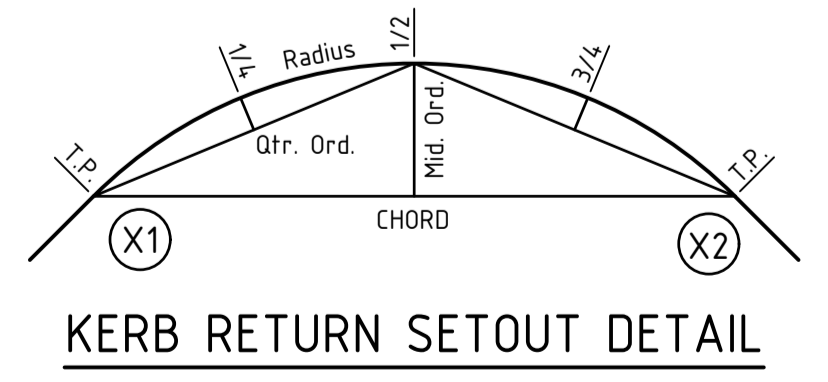
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
I2-I3	8.600	14.469	12.822	2.868	0.750



ALIGNMENT L

POINT NO	EASTING	NORTHING	RL	CHAINAGE
L1	299243.477	6002619.020	94.623	0.000
L2	299235.723	6002619.955	94.593	7.810
L3	299232.862	6002619.820	94.586	10.687
L4	299230.205	6002618.753	94.572	13.565
L5	299228.045	6002616.872	94.557	16.442
L6	299226.622	6002614.387	94.543	19.319

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
L2-L3	8.600	11.509	10.669	1.854	0.477



file name: 310098CC270.dwg; layout: 000; plot area: EC370; plotted by: Isaac_Buff; plot date: 30/10/2023; 9:57 AM; sheet: 12 of 20; sheets: 12 of 20; location: G:\310098\Civil\A3\A3.dwg; plot date: 30/10/2023; 9:57 AM; sheet: 12 of 20; sheets: 12 of 20

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23

AS SHOWN

System Certified

© Spiire Australia Pty Ltd All Rights Reserved
 This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

16 BRIDGE STREET BENDIGO
 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
 spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

**MAIDENS GREEN
 STAGE 4
 INTERSECTION DETAILS
 EMERALD AVENUE - ROSALIND DRIVE - KINGS CIRCUIT**
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 310098CC270

Rev 0

WATER NOTES

GENERAL NOTES:

- ONLY PRODUCTS APPROVED AND CATALOGUED BY THE WATER AGENCY SHALL BE USED.
- WORKS MUST BE CONSTRUCTED ACCORDING TO WSA 03-2011-3.1 MRWA EDITION & MURRAY RIVER COUNCIL ENGINEERING GUIDELINES. THE CONTRACTOR SHALL ENSURE THAT THEY ARE CONVERSANT WITH ALL CURRENT REVISIONS, AMENDMENTS AND UPDATES THAT THE RELEVANT WATER AGENCY HAS MADE TO THEIR STANDARDS.
- DW ASSETS SHALL ONLY BE CONSTRUCTED AFTER DEEPER ASSETS AFFECTING THE WATER MAINS HAVE BEEN CONSTRUCTED (EG: SEWERAGE & DRAINAGE ASSETS). THIS DESIGN IS TO BE READ IN CONJUNCTION WITH ROAD AND DRAINAGE PLANS.
- THE CONTRACTOR SHALL OBTAIN A ROAD OPENING PERMIT FOR ANY WORKS WITHIN THE ROAD RESERVE AND COMPLY WITH ALL REQUIREMENTS OF THE ROAD AUTHORITY.
- FOR INTERPRETATION OF THE SYMBOLS USED IN THIS DESIGN, REFER TO DRAWING MRWA-W-100.
- TRAFFIC MANAGEMENT TO BE IN ACCORDANCE WITH AS1742.3 (TRAFFIC CONTROL DEVICE FOR WORKS IN ROADS)
- USE EXTREME CARE WHEN WORKING NEAR EXISTING TREES TO MINIMISE DAMAGE TO ROOT SYSTEM AND CANOPY.
- ALL TREES MUST BE PRESERVED AND PROTECTED AT ALL TIMES. TREES MARKED X ON DESIGN PLANS MAY BE REMOVED.
- NO BLASTING IS PERMITTED WITHIN 20M OF EXISTING WATER MAINS.

SURVEY, SET OUT AND ASSET RECORDING

- TEMPORARY BENCH MARKS (TBM) FOR THE SET OUT OF WORKS TO THE AUSTRALIAN HEIGHT DATUM (AHD) ARE PROVIDED IN THE DESIGN DRAWINGS.
- ALL LEVELS ARE IN METRES TO AHD.
- ALL CO-ORDINATES ARE IN METRES TO THE MAP GRID OF AUSTRALIA (MGA 55- 2020).
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR ENSURING THE PROJECT SET OUT IS CONSISTENT WITH THE DESIGN. SHOULD ACTUAL SITE CONDITIONS CONFLICT IN ANY WAY WITH THAT DOCUMENTED, THE CONTRACTOR SHALL CONTACT THE SUPERINTENDENT FOR CLARIFICATION BEFORE PROCEEDING.
- WHERE NOT ALLOWED FOR IN THE CONTRACT, THE CONTRACTOR IS TO ENGAGE A SUITABLY QUALIFIED AND EXPERIENCED SURVEYOR TO UNDERTAKE ASSET RECORDING OF THE WORK. ALL SURVEYOR WORKS AND DATA RECORDING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA SURVEY MANUAL.
- ALL SPECIFIC PIPE MATERIALS (EG: PVC-O) SHALL BE INDICATED IN THE AS CONSTRUCTED INFORMATION

PRODUCTS AND MATERIALS

- ALL INSERTION/GASKET KITS ARE TO INCLUDE STAINLESS STEEL FASTENERS.
- FOR THE PIPE SCHEDULE, REFER TO TABLE 1.
- FOR THE PIPE MATERIAL SCHEDULE, REFER TO TABLE 2.
- ALL WATER MAINS TO BE RRJ PVC-M SERIES 1 CLASS 12, UNLESS OTHERWISE NOTED.
- WHERE PE PIPE CONSTRUCTION IS REQUIRED, REFER TO DRAWING MRWA-W-103 AND WSA 01 (PE PIPELINE CODE). WELDERS SHALL BE ACCREDITED TO PMBWELD302B (ELECTROFUSION). BUTT WELDING IS NOT ACCEPTED BY MURRAY SHIRE COUNCIL.
- ALL HANDLING OF PIPES & FITTINGS TO BE CARRIED OUT IN ACCORDANCE WITH GENERAL SPECIFICATION FOR CONSTRUCTION OF PRESSURE PIPES.

APPURTENANCES (FITTINGS)

- ALL VALVES AND HYDRANTS SHALL BE MARKED ACCORDING TO DRAWINGS MRWA-W-300 AND MRWA-W-301.
- VALVE SURROUNDS, COVERS AND SPINDLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWING MRWA-W-302.
- HYDRANT SURFACE ARRANGEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS MRWA-W-303.
- FLANGE AND FLANGE BOLTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS MRWA-W-306A AND MRWA-W-306B.
- FOR THE HYDRANT AND WASHOUT SCHEDULE, REFER TO TABLE 3.
- ALL VALVES SHALL BE LOCATED DIRECTLY OUT FROM THE APEX OF THE SPLAY CORNER (UNLESS OTHERWISE INDICATED).
- ALL VALVES ARE TO BE ANTI-CLOCKWISE CLOSING

WATER MAIN ALIGNMENT, TRENCHING & COVER

- TRENCH, PIPE PLACEMENT, EMBEDMENT AND BACKFILL DIMENSIONS AS PER STANDARD DRAWING MRWA-W-202.
- OFFSETS OF MAINS FROM PROPERTY BOUNDARIES SHALL BE: MIN 600MM (MANS < DN100) AND MIN 1M (MANS > DN100), EXCEPT WHERE INDICATED IN THE DRAWINGS.
- ALL WATER MAINS SHALL PASS OVER DRAINS AND SEWERS UNLESS SHOWN OTHERWISE IN THE DESIGN DRAWINGS.
- MAINS SHALL BE ALIGNED IN ACCORDANCE WITH THE SERVICES ALIGNMENT SCHEDULE, REFER TO TABLE 5.
- THE MAXIMUM DEPTH FROM THE SURFACE LEVEL TO TOP OF PIPE MUST NOT EXCEED 15M

EMBEDMENT

- UNLESS OTHERWISE APPROVED BY THE WATER AGENCY, ALL EMBEDMENT MATERIALS SHALL BE IN ACCORDANCE WITH WSA-PS-361.
- EMBEDMENT SHALL BE PLACED AS PER DRAWINGS MRWA-W-201 AND MRWA-W-202.

BACKFILL

- BACKFILL IN TRAFFICABLE AND NON-TRAFFICABLE AREAS SHALL BE IN ACCORDANCE WITH MRWA SPECIFICATION NO. 04-03.1 (BACKFILL SPECIFICATION), AND AS DETAILED IN MRWA-W-201. THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN CONFIRMATION OF THE ROAD AUTHORITIES ACCEPTANCE OF THE PROPOSED BACKFILL.
- COMPACTION TRIALS AND COMPACTION TESTING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA BACKFILL SPECIFICATIONS.
- TRENCH SUBSIDENCE OVER WATER MAINS IS NOT ACCEPTABLE.
- ALL TRENCHES CROSSING PAVEMENT AREAS OR BENEATH KERB OR FOOTPATH ARE TO BE BACKFILLED WITH CLASS 3 20MM FINE CRUSHED ROCK.
- ALL ROAD CROSSINGS FOR PROPERTY SERVICES TO BE BACKFILLED WITH 3% CEMENT STABILISED FCR.

THRUST RESTRAINT

- FOR THE THRUST RESTRAINT SCHEDULE, REFER TO TABLE 6.
- CONSTRUCT CONCRETE THRUST RESTRAINTS AS PER DRAWINGS MRWA-W- 204, 205A, 205B & 205C AS APPLICABLE.
- THE CONTRACTOR SHALL CONFIRM THE ACTUAL GROUND CONDITIONS (USING STANDARD DRAWING MRWA-W-200 AS A GUIDE) AND DISCUSS WITH THE SUPERINTENDENT ANY GROUND CONDITIONS WHICH ARE FOUND TO BE DIFFERENT TO THAT NOMINATED. THE NOMINAL AHP OF THE GROUND USED IN CALCULATING EACH THRUST RESTRAINT IS 50KPA.

CONNECTIONS (ALL TYPES)

- CONNECTION OF > DN100 OFFTAKES TO EXISTING MAINS SHALL BE AS INDICATED IN THE DESIGN DRAWINGS AND AS PER DRAWING MRWA-W-106.
- CONNECTION OF DN40, 50 & 63 PE OFFTAKES SHALL BE AS PER DRAWING MRWA-W-107.
- ALL WATER SERVICE ROAD CROSSINGS TO BE 32mm PNB POLY (IF TWO PROPERTIES BEING CONNECTED) OR 25MM PNB POLY (IF SINGLE PROPERTY CONNECTED). EACH SERVICE TO BE SLEEVED IN 50MM CLASS 12 UPVC.
- WATER TAPPINGS (TREATED AND RAW) INCLUDING TAPPING SADDLES AND 20mm COPPER SERVICE CONNECTIONS, METER STOP TAP (TREATED) AND BALL VALVE QUICK ACTION (RAW) TO BE PROVIDED 1m WITHIN EACH LOT. TAPPING SADDLES ARE TO BE GUNMETAL STYLE ONLY. SEE STANDARD DRAWING (TO BE REQUESTED FROM MURRAY RIVER COUNCIL).

OTHER SERVICES

- TO RECEIVE THE MOST UP TO DATE INFORMATION PRIOR TO CONSTRUCTION, "DIAL BEFORE YOU DIG" SHALL BE UNDERTAKEN TO AID IN THE LOCATION OF OTHER SERVICES. OTHER SERVICES SHALL BE CAREFULLY LOCATED PRIOR TO FULL EXCAVATION AT THE CONTRACTOR'S RISK AND COST. ANY CLASHES OF PROPOSED NEW WORKS WITH OTHER ASSETS SHALL BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY FOR CLARIFICATION.
- THE LOCATION AND DEPTH OF ANY EXISTING SERVICES SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL LOCAL SERVICE AUTHORITIES.
- OFFSETS TO OTHER SERVICES SHALL BE AS PER TABLE 5 OR OTHERWISE AS PER TABLE 5.5 OF WSA03-2011-3.1 MRWA EDITION. THESE CLEARANCES SHALL APPLY TO SURFACE COVERS AS WELL AS UNDERGROUND ASSETS.
- VERTICAL CLEARANCES FROM OTHER SERVICES SHALL BE AS PER TABLE 7
- LAY MAINS OVER DRAINS UNLESS OTHERWISE SHOWN.
- GAS & WATER MAINS TO BE LAID IN A COMMON TRENCH.

ASSET RECORDING

- THE CONTRACTOR MUST RECORD ALL CONSTRUCTION DETAILS INCLUDING OFFSETS OF MAINS AND LOCATIONS OF FITTINGS SUCH AS VALVES, TEES, FIRE PLUGS ETC. AND TESTING DETAILS, USING APPROPRIATE "LINE SHEETS".
- "LINE SHEETS" ARE TO BE PROVIDED TO THE SUPERVISING ENGINEER AS AS CONSTRUCTED PLANS, WITHIN 1 WEEK OF THE COMPLETE OF THE WORKS.

TESTING, ASSET ACCEPTANCE AND LIVE CONNECTIONS

- POST CONSTRUCTION ACTIVITIES SUCH AS SWABBING, WATER QUALITY TESTING, PRESSURE TESTING AND CHLORINATION SHALL BE CARRIED OUT IN ACCORDANCE WITH WSA03-2011-3.1 MRWA EDITION AND THE MRWA WATER QUALITY COMPLIANCE SPECIFICATION & MURRAY RIVER COUNCIL REQUIREMENTS. ALL TEST RESULTS SHALL BE DOCUMENTED AND REPORTED TO THE SUPERINTENDENT.
- THE CONTRACTOR SHALL PROVIDE 14 DAYS NOTICE TO THE SUPERINTENDENT PRIOR TO TESTING BEING UNDERTAKEN.
- THE CONTRACTOR SHALL PROVIDE AT LEAST 10 DAYS NOTICE TO THE SUPERINTENDENT PRIOR TO CONNECTING NEW WORKS TO THE EXISTING NETWORK. SHUT DOWN WORK SHALL BE SCHEDULED FOR 9AM WEEKDAYS AND BE COMPLETED BETWEEN 9AM - 4PM.
- VALVES CONNECTING NEW ASSETS TO MURRAY RIVER COUNCIL'S LIVE SYSTEM SHALL ONLY BE OPERATED BY MURRAY RIVER COUNCIL.
- ALL WORKS MUST BE CONSTRUCTED AND FINISHED IN A TRADESMANSHIP LIKE MANNER.

DRAINAGE NOTES

- ALL DRAINAGE PIPES & PITS ARE TO BE AT 1m OFFSET TO PROPERTY BOUNDARIES UNLESS SHOWN OTHERWISE
- THE CONTRACTOR MUST CONTACT SERVICING AUTHORITIES TO ARRANGE SERVICE LOCATIONS PRIOR TO COMMENCEMENT OF EXCAVATION FOR THIS PROJECT
- PITS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE MUNICIPALITY. STEEL GRATES ARE TO BE HOT DIP GALVANISED AFTER MANUFACTURE. THE TOP OF ALL GRATES MUST BE APPROXIMATELY 150mm BELOW THE SURROUNDING SURFACE LEVEL. PROPERTY DRAINAGE CONNECTIONS ARE TO BE PROVIDED AS NECESSARY.
- ALL SIDE ENTRY PITS IN ROLLOVER KERB & CHANNEL ARE TO BE CONSTRUCTED USING AN APPROVED ROLLOVER TYPE LINTEL OR A REINFORCED ROLLOVER PROFILE PIT LID. STANDARD SQUARE PROFILE PIT LIDS WITHOUT LINTEL ARE NOT ACCEPTABLE. SIDE ENTRY PIT THROAT CLEARANCE TO BE 100mm MAX.
- PIT LIDS TO BE CLASS B IN NON-TRAFFICABLE AREAS AND CLASS D IN TRAFFICABLE AREAS.
- TRENCHES WITHIN PAVEMENT AREAS ARE TO BE BACKFILLED WITH CLASS 4 FCR. THE TRENCH IS TO BE BACKFILLED IN 150MM LAYERS AND CONSOLIDATED.
- ALL PIPE STUBS ARE TO CONSIST OF ONE FULL PIPE LENGTH UNLESS SHOWN OTHERWISE.
- FINISHED LEVELS FOR SIDE ENTRY PITS MUST BE DETERMINED FROM KERB LEVELS AND SHOULD BE SLOPED TO SUIT NATURESTRIPS ETC. THE FSLs INDICATED IN THE PIT SCHEDULE ARE BACK OF KERB LEVELS.
- STEP IRONS ARE NOT REQUIRED IN DRAINAGE PITS.
- CONCRETE PIPES ARE TO BE CLASS 2 RRJ RCP AND PVC PIPES ARE TO BE CLASS SN8 UNLESS OTHERWISE NOTED.
- ALL EXCAVATIONS FOR DRAINAGE WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW SOUTH WALES WORK COVER AUTHORITY.
- REINFORCEMENT BARS SHALL COMPLY WITH AS4671, GRADE 400Y. LAPS IN REINFORCEMENT BARS SHALL BE 300 MIN. AND CLEAR COVER 50 MIN.
- CONCRETE SHALL BE NORMAL CLASS N32 STANDARD STRENGTH GRADE OR HIGHER COMPLYING WITH THE REQUIREMENTS OF AS1379.
- ENDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF AS3600.
- DIRECT CONNECTION OF PVC HOUSE DRAIN TO RCP DRAINAGE TO BE CONSTRUCTED WITH "CONCONNECT" OR APPROVED EQUIVALENT FITTING. 150mmØ PVC PIPES ARE NOT TO BE DIRECTLY CONNECTED TO CONCRETE PIPES LESS THAN 450mmØ IN DIAMETER. 100mmØ HOUSE CONNECTION PIPE TO BE USED FOR ALL LOTS IN STAGE.
- WHERE PVC HOUSE CONNECTIONS ARE MADE DIRECTLY TO PIPES, THE HOUSE CONNECTION IS TO BE RAISED TO SURFACE LEVEL WITHIN THE PROPERTY AND CAPPED AS PER SD520.
- ALL DRAINAGE PIPES ARE TO BE INSPECTED VIA CCTV AFTER INSTALLATION, HARD COPY AND ELECTRONIC COPY OF THE CCTV IS TO BE PROVIDED TO MURRAY RIVER COUNCIL. CCTV MUST INCLUDE GRADES.

SEWER NOTES

- ALL LEVELS ARE IN METRES TO AUSTRALIAN HEIGHT DATUM (A.H.D.)
- CO-ORDINATES FOR SETTING OUT, WHERE SHOWN, ARE TO M.G.A
- WORKS MUST BE TO CONSTRUCTED ACCORDING TO THE WSA SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1. THE CONTRACTOR SHALL ENSURE THAT THEY ARE CONVERSANT WITH THE CURRENT REVISIONS, AMENDMENTS, SPECIFICATIONS, STANDARD DRAWINGS AND UPDATES THAT MURRAY RIVER COUNCIL HAVE MADE TO THEIR CONSTRUCTION STANDARD
- ALL MATERIALS ARE TO BE IN ACCORDANCE WITH MURRAY RIVER COUNCIL'S PREFERRED EQUIPMENT MANUFACTURERS LIST.
- THE CONTRACTOR MUST CLEARLY UNDERSTAND THE REQUIREMENTS OF THE WSA CODE FOR THE CONSTRUCTION OF MH'S AND THEIR BASES. REFER TO THE WSA 300 SERIES DOCUMENTS WITH CLEARLY DETAIL MINIMUM REQUIREMENTS AND DIMENSIONS IN MILLIMETRES ETC. ACCEPTABLE TO MURRAY RIVER COUNCIL.
- TRENCH SUBSIDENCE OVER SEWER MAINS IS NOT ACCEPTABLE TO MURRAY RIVER COUNCIL
- CHAINAGES WHERE SHOWN ON DETAIL PLANS ARE DISCONTINUOUS AT MAINTENANCE STRUCTURES.
- CHAINAGES SHOWN ON LONGITUDINAL PLANS ARE CONTINUOUS.
- PIPE MATERIAL, UNLESS SHOWN OTHERWISE.

PIPELINE MATERIALS

PIPE TYPE	PIPE CLASS	AUS. STANDARD	LOCATION
PVC	SN10	AS/NZS 1260-2009	100Ø PROPERTY BRANCHES
PVC	SN8	AS/NZS 1260-2009	150Ø RETICULATION SEWERS
PVC	SN8	AS/NZS 1260-2009	225Ø RETICULATION SEWERS

NOTE: SEWERPRO PIPE IS NOT ACCEPTABLE.

- ACCESS CHAMBERS
- ACCESS CHAMBER COVERS SHALL BE LEVEL WITH AND SHALL CONFORM TO SLOPE AND CROSSFALL OF THE FINISHED SURFACE. THE FINISHED SURFACE LEVELS SHOWN ARE APPROXIMATE ONLY. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR SETTING THE CONSTRUCTION LEVELS INCLUDING COVER GRADES BASED ON THE ROAD AND DRAINAGE PLANS. ALL SEWER COVERS ARE TO BE CONSTRUCTED TO THESE LEVELS. MAXIMUM SLOPE FOR CLASS C OR D COVERS TO BE 1 IN 10. MAXIMUM SLOPE FOR CLASS A OR B COVERS TO BE 1 IN 4.
- ACCESS CHAMBERS AND INSPECTION SHAFTS IN ROAD RESERVES AND R.O.W.'S CONSTRUCTED PRIOR TO THE CONSTRUCTION OF FOOTPATHS SHALL BE PROVIDED WITH A TEMPORARY COVER. THE PLACING OF THE FINAL COVER SHALL NOT BE CARRIED OUT UNTIL THE CONCRETE FOOTPATH HAS BEEN CONSTRUCTED. ALL MAINTENANCE HOLE COVERS IN ROAD RESERVE MUST BE A CLASS D SOLID DUCTILE IRON LID.
- ALL ACCESS CHAMBERS TO BE 1050MM DIAMETER UNLESS OTHERWISE SHOWN.
- EARTHWORKS
- IN AREAS SUBJECT TO EARTHWORKS, THE CONSTRUCTION OF SEWERS MUST NOT COMMENCE UNTIL THE EARTHWORKS HAVE BEEN COMPLETED OR THE SUPERINTENDENT GIVES WRITTEN APPROVAL TO COMMENCE. SUCH APPROVAL WOULD NOT BE GIVEN UNLESS THE CONTRACTOR CAN DEMONSTRATE THAT THE SEWER WOULD BE SATISFACTORILY PROTECTED AGAINST DAMAGE FROM CONSTRUCTION LOADS.
- PVC: WHERE CLEAR COVER LESS THAN 600MM, TYPE F2C BEDDING AND COVERING SHALL BE PLACED AROUND SEWERS. UNDER ROAD PAVEMENTS WHERE THE CLEARANCE BETWEEN THE TOP AND BOTTOM OF BOXING AND TOP OF SEWER IS LESS THAN 900MM, TYPE F2C BEDDING AND COVERING SHALL BE PLACED AROUND SEWERS.
- THE CONTRACT IS IN ACCORDANCE WITH AS2124-1992. IN ACCORDANCE WITH CLAUSE 15 OF AS2124-1992, THE CONTRACTOR MUST ENSURE THE SAFETY OF THE CONTRACTORS EMPLOYEES AND ALL OTHER PEOPLE WHO ARE ON OR ADJACENT THE SITE.
- MURRAY RIVER COUNCIL MUST BE NOTIFIED BY THE CONTRACTOR 72 HOURS PRIOR TO COMMENCING WORKS ON EXISTING SEWER.
- CONNECTION TO LIVE SEWER: CONFINED SPACE ENTRY MUST BE IN ACCORDANCE WITH BOTH MURRAY RIVER COUNCIL AND WH&S REQUIREMENTS. CONTRACTOR MUST NOT ENTER A CONFINED SPACE UNTIL ALL REQUIRED INFORMATION HAS BEEN SUBMITTED TO MURRAY RIVER COUNCIL.
- PROPERTY BRANCH FITTINGS MUST BE LOCATED AT LEAST 1m WITHIN PROPERTY BEING SERVICED, AND CLEAR OF ANY OBSTRUCTIONS. PROPERTY CONNECTION POINT JUMP UPS ARE TO BE FINISHED 1m ABOVE FINISHED SURFACE LEVEL AS PER MURRAY RIVER COUNCIL REQUIREMENTS, PROPERTY BRANCH MUST BE A MINIMUM 1m FROM SIDE BOUNDARIES.
- 7 CLEAR DAYS NOTICE PRIOR TO COMMENCEMENT OF THE WORKS MUST BE GIVEN TO THE SUPERINTENDENT.
- WSA CODE REQUIREMENTS FOR MINIMUM VERTICAL, AND HORIZONTAL CLEARANCES FROM THE SEWER ASSETS, TO OTHER SERVICES ARE NOT COMPROMISED.
- ALL MH'S PROPOSED TO BE LOCATED WITHIN LOTS, CLOSE TO THE FOOTPATHS/STREET FRONTAGES, WHERE PROPOSED FINISHED SURFACES ARE CONTOURED, OR SLIGHTLY HIGHER THAN A FOOTPATH OR OTHER SURFACES. MURRAY RIVER COUNCIL REQUIRES THE CONCRETE COVERS OF THE MH'S CONSTRUCTED IN THESE LOCATIONS, USING A TAPERED PRECAST CONCRETE MAKE UP RINGS, OR PRECAST SPACER RINGS. REFER TO SEW-1308-V OF THE CODE.
- SERVICE CONNECTIONS
- ALL NEW SERVICE CONNECTIONS MUST BE IN ACCORDANCE WITH THE REQUIREMENTS OF MURRAY RIVER COUNCIL SPECIFICATION OF WORKS FOR CONSTRUCTION OF RETICULATION SEWERS, ADDENDUM AND ASSOCIATED STRUCTURES, AS3500 AND THE SEWERAGE STANDARD DRAWINGS.
- THE CONNECTION POINT MUST BE EXTENDED A MINIMUM OF 1.0 METRES INTO THE BOUNDARY OF A LOT. A FURTHER DISTANCE MAY BE REQUIRED TO CLEAR STORM WATER DRAINS. THIS DISTANCE IS 300MM OR THE THE EDGE OF THE EASEMENT.
- PROPERTY CONNECTION SIDE-LINE MUST BE LOCATED A MINIMUM OF 1.0METRES FROM A SIDE BOUNDARY. A SIDE-LINE MUST NOT EXCEED A MAXIMUM LENGTH OF 3.0METRES IN LENGTH UNLESS APPROVED BY MURRAY RIVER COUNCIL.
- THE SIDE-LINE MUST BE CONSTRUCTED TO ACHIEVE A MINIMUM OF 600mm HORIZONTAL CLEARANCE FROM ANY OTHER SERVICES, FOR EXAMPLE 600mm MINIMUM FROM THE NEAREST EDGE OF A STORM WATER DRAIN OR PIT.
- BLASTING - NO BLASTING IS PERMITTED.
- TESTING
- ALL NEW SEWERS MUST BE PRESSURE TESTED. WHERE THE CONTRACTOR DOES NOT HAVE A QUALITY ASSURANCE SYSTEM IN PLACE, ALL PIPES MUST BE INSPECTED BY THE SUPERVISING ENGINEER.

file name: 310098CC400.dwg; layout name: CC400; plotted by: Isaac Buff; file location: G:\310098\CC400\ACAD\plot_date_30/10/2023_9:57:44M; Sheet 13 of 20 Sheets

Scale



System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



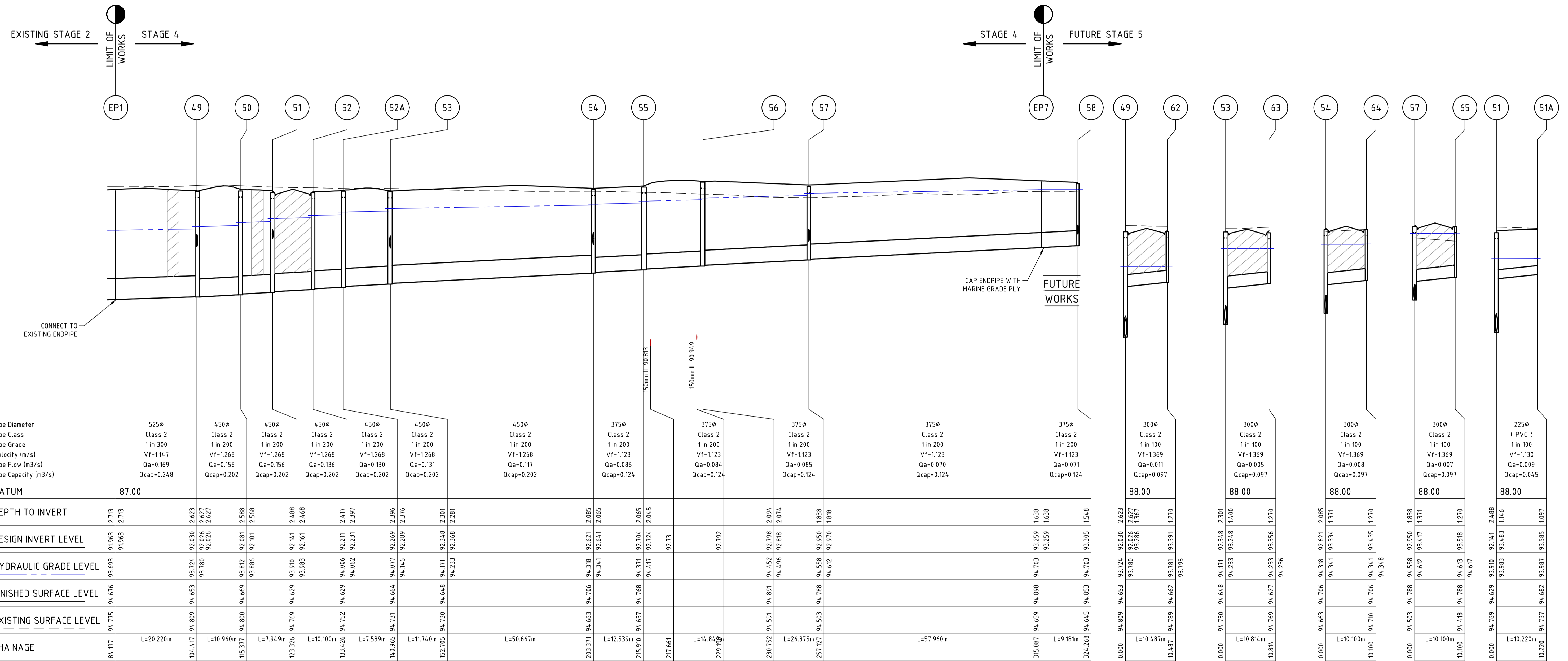
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

**MAIDENS GREEN
STAGE 4
HYDRAULICS - NOTES & LEGEND
SHEET 1**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Dwg No **310098CC400** Rev **0**

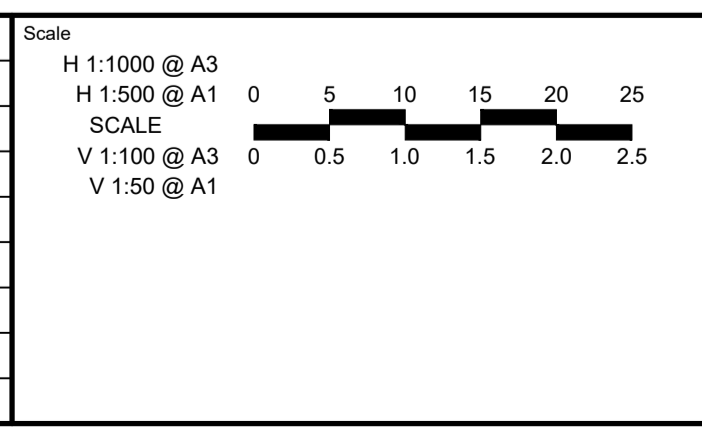
 CLASS 4 CRUSHED ROCK BACKFILL




	49	50	51	52	52A	53	54	55	56	57	58	49	62	53	63	54	64	57	65	51	51A		
Pipe Diameter	525φ	450φ	450φ	450φ	450φ	450φ	450φ	375φ	375φ	375φ	375φ	300φ	300φ	300φ	300φ	300φ	300φ	300φ	300φ	225φ	225φ		
Pipe Class	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2		
Pipe Grade	1 in 300	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	1 in 100	1 in 100	1 in 100	1 in 100	1 in 100	1 in 100	1 in 100	1 in 100	1 in 100	1 in 100		
Velocity (m/s)	Vf=1.147	Vf=1.268	Vf=1.268	Vf=1.268	Vf=1.268	Vf=1.268	Vf=1.268	Vf=1.123	Vf=1.123	Vf=1.123	Vf=1.123	Vf=1.369	Vf=1.369	Vf=1.369	Vf=1.369	Vf=1.369	Vf=1.369	Vf=1.369	Vf=1.369	Vf=1.130	Vf=1.130		
Pipe Flow (m ³ /s)	Qa=0.169	Qa=0.156	Qa=0.156	Qa=0.136	Qa=0.130	Qa=0.131	Qa=0.117	Qa=0.086	Qa=0.084	Qa=0.085	Qa=0.070	Qa=0.011	Qa=0.011	Qa=0.005	Qa=0.008	Qa=0.007	Qa=0.007	Qa=0.007	Qa=0.007	Qa=0.009	Qa=0.009		
Pipe Capacity (m ³ /s)	Qcap=0.248	Qcap=0.202	Qcap=0.202	Qcap=0.202	Qcap=0.202	Qcap=0.202	Qcap=0.202	Qcap=0.124	Qcap=0.124	Qcap=0.124	Qcap=0.124	Qcap=0.097	Qcap=0.097	Qcap=0.097	Qcap=0.097	Qcap=0.097	Qcap=0.097	Qcap=0.097	Qcap=0.097	Qcap=0.045	Qcap=0.045		
DATUM	87.00																						
DEPTH TO INVERT	2.713	2.713	2.623	2.627	2.588	2.488	2.417	2.397	2.396	2.316	2.301	2.281	2.085	2.065	2.045	2.045	1.818	1.818	1.818	1.818	1.818	1.818	
DESIGN INVERT LEVEL	91.963	91.963	92.030	92.026	92.081	92.141	92.211	92.231	92.269	92.289	92.348	92.368	92.621	92.641	92.704	92.724	92.792	92.792	92.792	92.792	92.792	92.792	92.792
HYDRAULIC GRADE LEVEL	93.693	93.693	93.724	93.780	93.886	93.910	94.006	94.062	94.077	94.146	94.171	94.233	94.318	94.341	94.417	94.417	94.496	94.558	94.558	94.612	94.612	94.612	94.612
FINISHED SURFACE LEVEL	94.775	94.809	94.653	94.780	94.809	94.629	94.629	94.664	94.664	94.731	94.664	94.730	94.663	94.706	94.663	94.731	94.664	94.731	94.664	94.731	94.664	94.731	94.664
EXISTING SURFACE LEVEL	94.775	94.809	94.653	94.780	94.809	94.629	94.629	94.664	94.664	94.731	94.664	94.730	94.663	94.706	94.663	94.731	94.664	94.731	94.664	94.731	94.664	94.731	94.664
CHAINAGE	84.197	104.417	115.377	123.326	133.426	140.965	152.705	203.371	215.910	217.661	229.156	230.752	257.127	315.087	324.268	0.000	10.814	0.000	10.100	0.000	10.220	0.000	10.220

file name: 310098CC430.dwg, layout name: CC430, plotted by: Isaac Buff, file location: G:\310098\310098\1\A3.dwg, plot date: 30/10/2023, 9:57 AM, Sheet 14 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23





 System Certified

 © Spiire Australia Pty Ltd All Rights Reserved

This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



 16 BRIDGE STREET BENDIGO

 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500

 spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

MAIDENS GREEN


STAGE 4

HYDRAULICS - DRAINAGE PROFILES

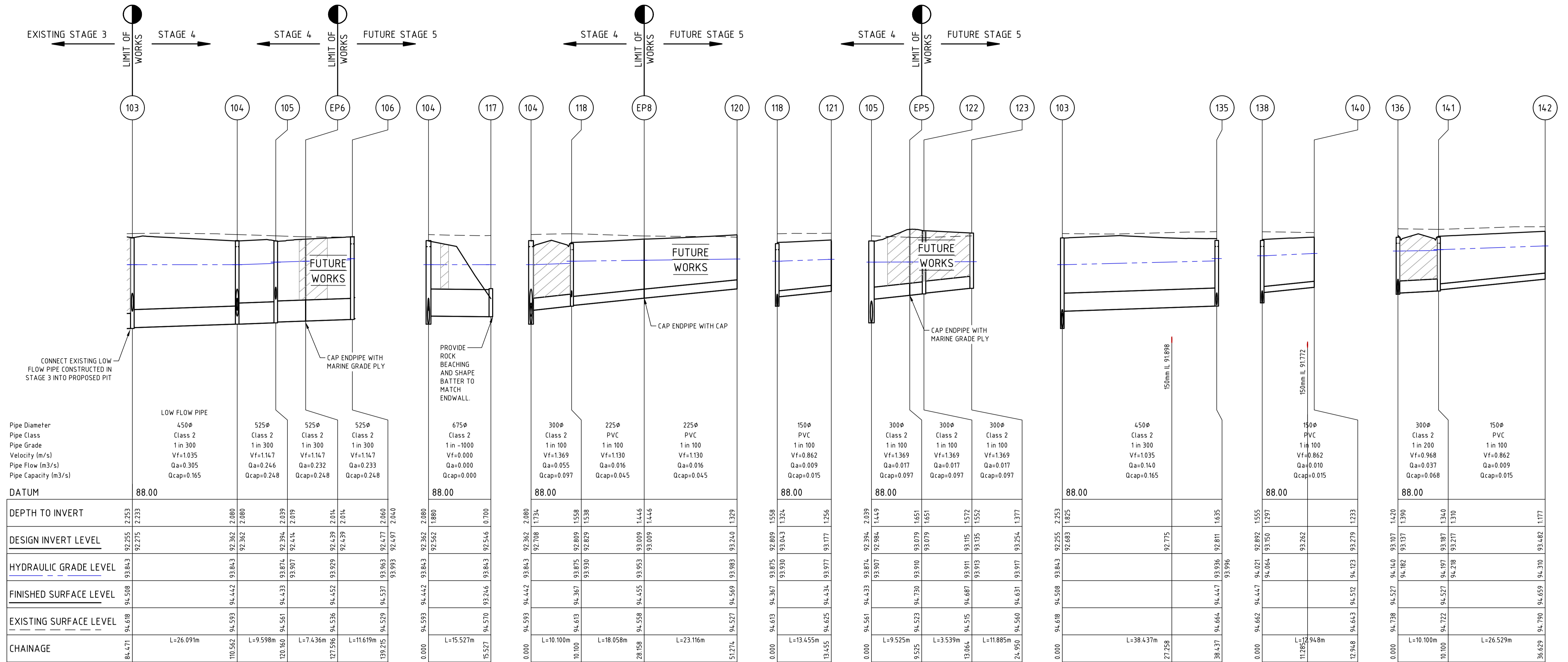
SHEET 1 OF 3

 MURRAY RIVER COUNCIL

 KIELY ROAD PROJECTS PTY LTD



 CLASS 4 CRUSHED ROCK BACKFILL



Pipe Diameter	450 ϕ	525 ϕ	525 ϕ	525 ϕ
Pipe Class	Class 2	Class 2	Class 2	Class 2
Pipe Grade	1 in 300	1 in 300	1 in 300	1 in 300
Velocity (m/s)	Vf=1.035	Vf=1.147	Vf=1.147	Vf=1.147
Pipe Flow (m3/s)	Qa=0.305	Qa=0.246	Qa=0.232	Qa=0.233
Pipe Capacity (m3/s)	Qcap=0.165	Qcap=0.248	Qcap=0.248	Qcap=0.248

DATUM	88.00				
DEPTH TO INVERT	92.255	92.362	92.362	92.439	92.477
DESIGN INVERT LEVEL	92.275	92.362	92.362	92.439	92.477
HYDRAULIC GRADE LEVEL	93.843	93.843	93.874	93.929	93.963
FINISHED SURFACE LEVEL	94.508	94.442	94.433	94.452	94.537
EXISTING SURFACE LEVEL	94.618	94.593	94.633	94.536	94.529
CHAINAGE	84.471	L=26.091m	120.160	L=9.598m	138.215


DATUM	88.00				
DEPTH TO INVERT	92.562	92.708	92.809	93.009	93.177
DESIGN INVERT LEVEL	92.562	92.708	92.809	93.009	93.177
HYDRAULIC GRADE LEVEL	93.843	93.843	93.875	93.953	93.999
FINISHED SURFACE LEVEL	94.442	94.367	94.367	94.455	94.527
EXISTING SURFACE LEVEL	94.593	94.613	94.613	94.558	94.527
CHAINAGE	0.000	L=10.100m	L=18.058m	L=23.116m	51.274

DATUM	88.00				
DEPTH TO INVERT	92.683	92.775	93.079	93.135	93.254
DESIGN INVERT LEVEL	92.683	92.775	93.079	93.135	93.254
HYDRAULIC GRADE LEVEL	93.843	93.843	93.874	93.913	93.917
FINISHED SURFACE LEVEL	94.508	94.442	94.433	94.447	94.631
EXISTING SURFACE LEVEL	94.618	94.593	94.633	94.536	94.529
CHAINAGE	0.000	L=9.525m	L=3.539m	L=11.885m	24.950

DATUM	88.00				
DEPTH TO INVERT	92.892	93.150	93.262	93.279	93.310
DESIGN INVERT LEVEL	92.892	93.150	93.262	93.279	93.310
HYDRAULIC GRADE LEVEL	93.843	93.843	93.874	93.913	93.917
FINISHED SURFACE LEVEL	94.662	94.447	94.433	94.447	94.631
EXISTING SURFACE LEVEL	94.738	94.527	94.527	94.527	94.527
CHAINAGE	0.000	L=12.948m	L=10.100m	L=26.529m	36.629

file name: 310098CC431.dwg; layout name: CC431; plotted by: Isaac_Buff; file location: G:\310098\CC431\CC431.dwg; plot date: 30/10/2023; 9:57 AM; Sheet 15 of 20 Sheets

Scale	H 1:1000 @ A3		
	H 1:500 @ A1		
SCALE	V 1:100 @ A3		
	V 1:50 @ A1		
Scale	0 5 10 15 20 25		
	0 0.5 1.0 1.5 2.0 2.5		
Rev	0 ISSUED FOR CONSTRUCTION	J.F.	30/10/23
	B AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
	A ISSUED FOR APPROVAL	J.F.	22/02/23
	Amendments	Approved	Date



 System Certified

 © Spiire Australia Pty Ltd All Rights Reserved

This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



 16 BRIDGE STREET BENDIGO

 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500

 spiire.com.au ABN 55 050 029 635

Designed	D.SHEEHAN	Checked	B.IBBS
Authorised	J.FEHRING	Date	OCT 23

MAIDENS GREEN


STAGE 4

HYDRAULICS - DRAINAGE PROFILES

SHEET 2 OF 3


 MURRAY RIVER COUNCIL

 KIELY ROAD PROJECTS PTY LTD

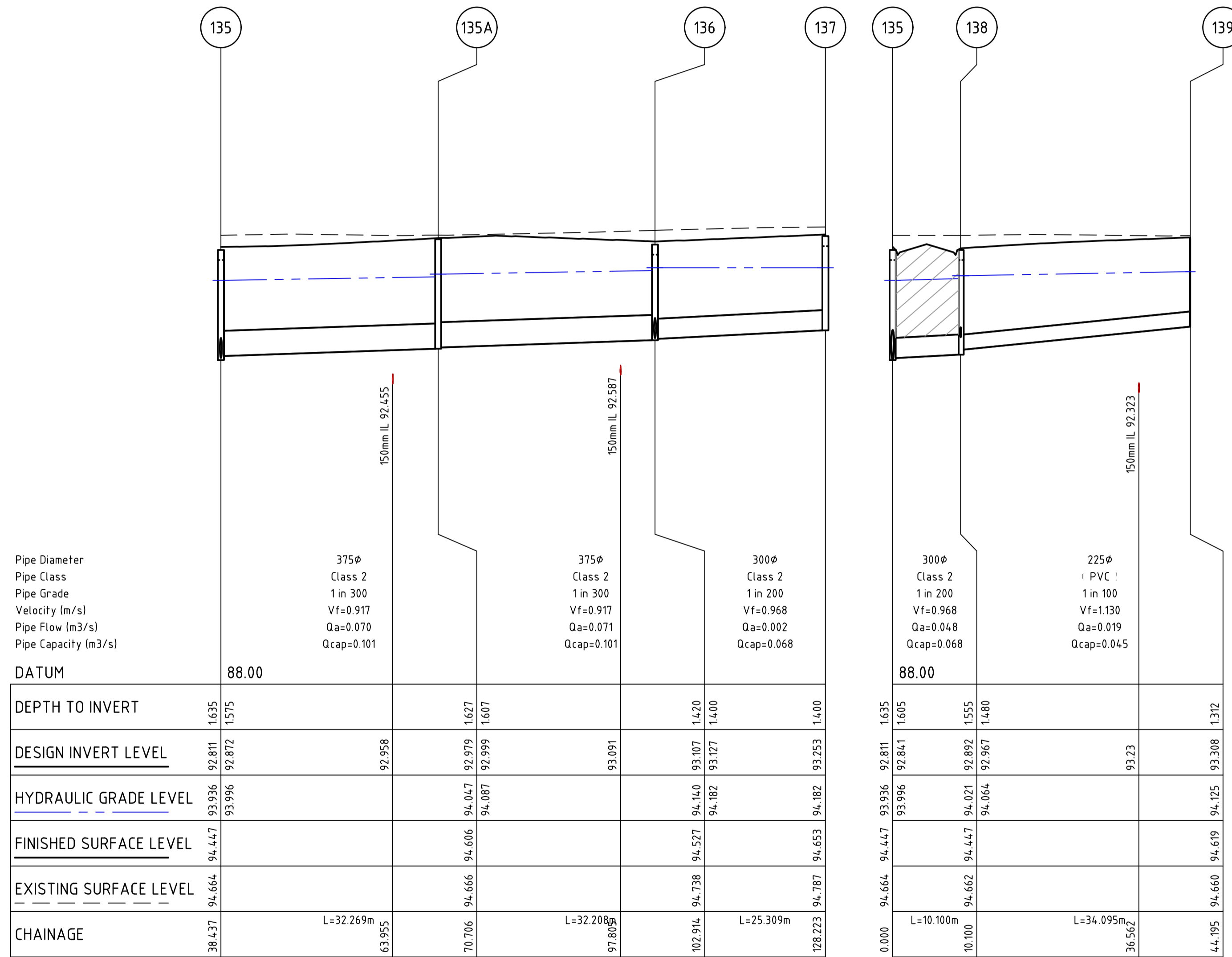


Dwg No **310098CC431**

Rev **0**

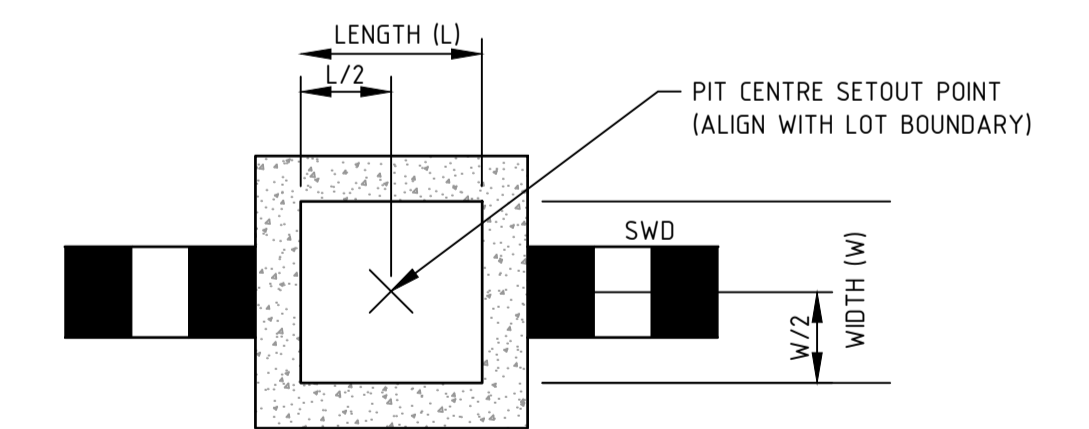
 CLASS 4 CRUSHED ROCK BACKFILL

DRAINAGE PIT SCHEDULE										
PIT NAME	TYPE	INTERNAL WIDTH	INTERNAL LENGTH	INLET DIA	INLET INV LEVEL	OUTLET DIA	OUTLET INV LEVEL	PIT FS LEVEL	PIT DEPTH	REMARKS
EP1	ENDPIPE			525	91.963	525	91.963	94.676	2.713	CONNECT TO EXISTING ENDPIPE
49	SIDE ENTRY PIT	900	900	450	92.026	525	92.030	94.653	2.627	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.286					
50	SIDE ENTRY PIT	900	900	450	92.101	450	92.081	94.669	2.588	AS PER IDM SD 440, HAUNCHED TO 900X600
51	SIDE ENTRY PIT	900	900	450	92.161	450	92.141	94.629	2.488	AS PER IDM SD 440, HAUNCHED TO 900X600
				225	93.483					
52	SIDE ENTRY PIT	900	900	450	92.231	450	92.211	94.629	2.417	AS PER IDM SD 440, HAUNCHED TO 900X600
52A	SIDE ENTRY PIT	900	900	450	92.289	450	92.269	94.664	2.396	AS PER IDM SD 440, HAUNCHED TO 900X600
53	SIDE ENTRY PIT	900	900	450	92.368	450	92.348	94.648	2.301	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.248					
54	SIDE ENTRY PIT	900	900	375	92.641	450	92.621	94.706	2.085	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.334					
55	SIDE ENTRY PIT	900	900	375	92.724	375	92.704	94.768	2.065	AS PER IDM SD 440, HAUNCHED TO 900X600
56	SIDE ENTRY PIT	900	900	375	92.818	375	92.798	94.891	2.094	AS PER IDM SD 440, HAUNCHED TO 900X600
57	SIDE ENTRY PIT	900	900	375	92.970	375	92.950	94.788	1.838	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.417					
				375	93.259	375	93.259	94.898	1.638	CAP ENDPIPE WITH MARINE GRADE PLY
EP7	ENDPIPE									
62	SIDE ENTRY PIT	600	900			300	93.391	94.662	1.270	AS PER IDM SD 440
51A	ENDPIPE					225	93.585	94.682	1.097	INSPECTION OPENING AS PER IDM SD 515
63	SIDE ENTRY PIT	600	900			300	93.356	94.627	1.270	AS PER IDM SD 440
64	SIDE ENTRY PIT	600	900			300	93.435	94.706	1.270	AS PER IDM SD 440
65	SIDE ENTRY PIT	600	900			300	93.518	94.788	1.270	AS PER IDM SD 440
103	JUNCTION PIT	900	900	450	92.275	375	92.255	94.508	2.253	AS PER IDM SD 420, HAUNCHED TO 900X600. CONNECT LOW FLOW PIPE INSTALLED IN STAGE 3 TO OUTLET OF PIT
				450	92.683					
104	SIDE ENTRY PIT	1200	900			450	92.362	94.442	2.080	AS PER IDM SD 440, HAUNCHED TO 900X600
				675	92.562					
				300	92.708					
105	JUNCTION PIT	1200	900	525	92.414	525	92.394	94.433	2.039	AS PER IDM SD 420, HAUNCHED TO 900X600
				300	92.984					
EP6	ENDPIPE			525	92.439	525	92.439	94.452	2.014	CAP END WITH MARINE GRADE PLY
117	HEADWALL	900	900			675	92.546	93.246	0.700	ENDWALL TO SUIT 675Ø PIPE
118	SIDE ENTRY PIT	600	900	225	92.829	300	92.809	94.367	1.558	AS PER IDM SD 440, HAUNCHED TO 900X600
				150	93.043					
EP8	ENDPIPE			225	93.009	225	93.009	94.455	1.446	CAP END
121	ENDPIPE					150	93.177	94.434	1.256	INSPECTION OPENING AS PER IDM SD 515
EP5	ENDPIPE			300	93.079	300	93.079	94.730	1.651	CAP END WITH MARINE GRADE PLY
135	SIDE ENTRY PIT	900	900	375	92.872	450	92.811	94.447	1.635	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	92.841					
135A	JUNCTION PIT	900	900	375	92.999	375	92.979	94.606	1.627	AS PER IDM SD 420, HAUNCHED TO 900X600
136	SIDE ENTRY PIT	900	900	300	93.127	375	93.107	94.527	1.420	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.137					
137	SIDE ENTRY PIT	600	900			300	93.253	94.653	1.400	AS PER IDM SD 440
138	SIDE ENTRY PIT	600	900	225	92.967	300	92.892	94.447	1.555	AS PER IDM SD 440
				150	93.150					
139	ENDPIPE					225	93.308	94.619	1.312	INSPECTION OPENING AS PER IDM SD 515
140	ENDPIPE					150	93.279	94.512	1.233	INSPECTION OPENING AS PER IDM SD 515
141	SIDE ENTRY PIT	600	900	150	93.217	300	93.187	94.527	1.340	AS PER IDM SD 440
142	ENDPIPE					150	93.482	94.659	1.177	INSPECTION OPENING AS PER IDM SD 515



PIT SETOUT CO-ORDINATES

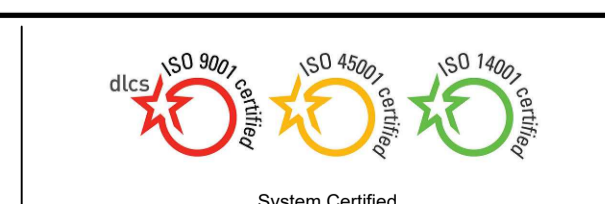
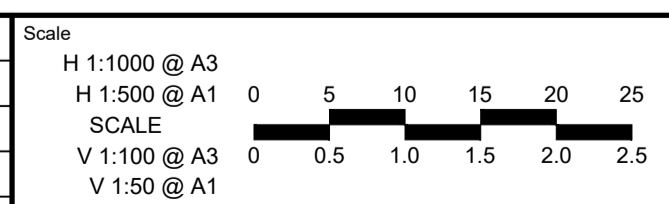
NAME	POINT	EASTING	NORTHING
EP1	END OF PIPE	299197.977	6002664.526
51A	CENTER OF BASE	299223.543	6002636.029
103	CENTER OF BASE	299233.835	6002808.395
EP6	END OF PIPE	299242.764	6002850.575
117	CENTER OF BASE	299224.263	6002835.685
EP8	END OF PIPE	299252.966	6002849.428
121	CENTER OF BASE	299246.526	6002818.585
EP5	END OF PIPE	299235.783	6002850.782
139	CENTER OF BASE	299236.126	6002735.280
140	CENTER OF BASE	299239.812	6002782.162
142	CENTER OF BASE	299235.626	6002679.344



TYPICAL DRAINAGE PIT SETOUT POINT 'C'
JUNCTION PIT/ EASEMENT PIT
NOT TO SCALE

file name: 310098CC432.dwg; layout: 03 - layout; user: CC432; plotted by: Isaac Buff; file location: G:\310098\CC432\A3.dwg; plot date: 30/10/2023; 9:57 AM; Sheet 16 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

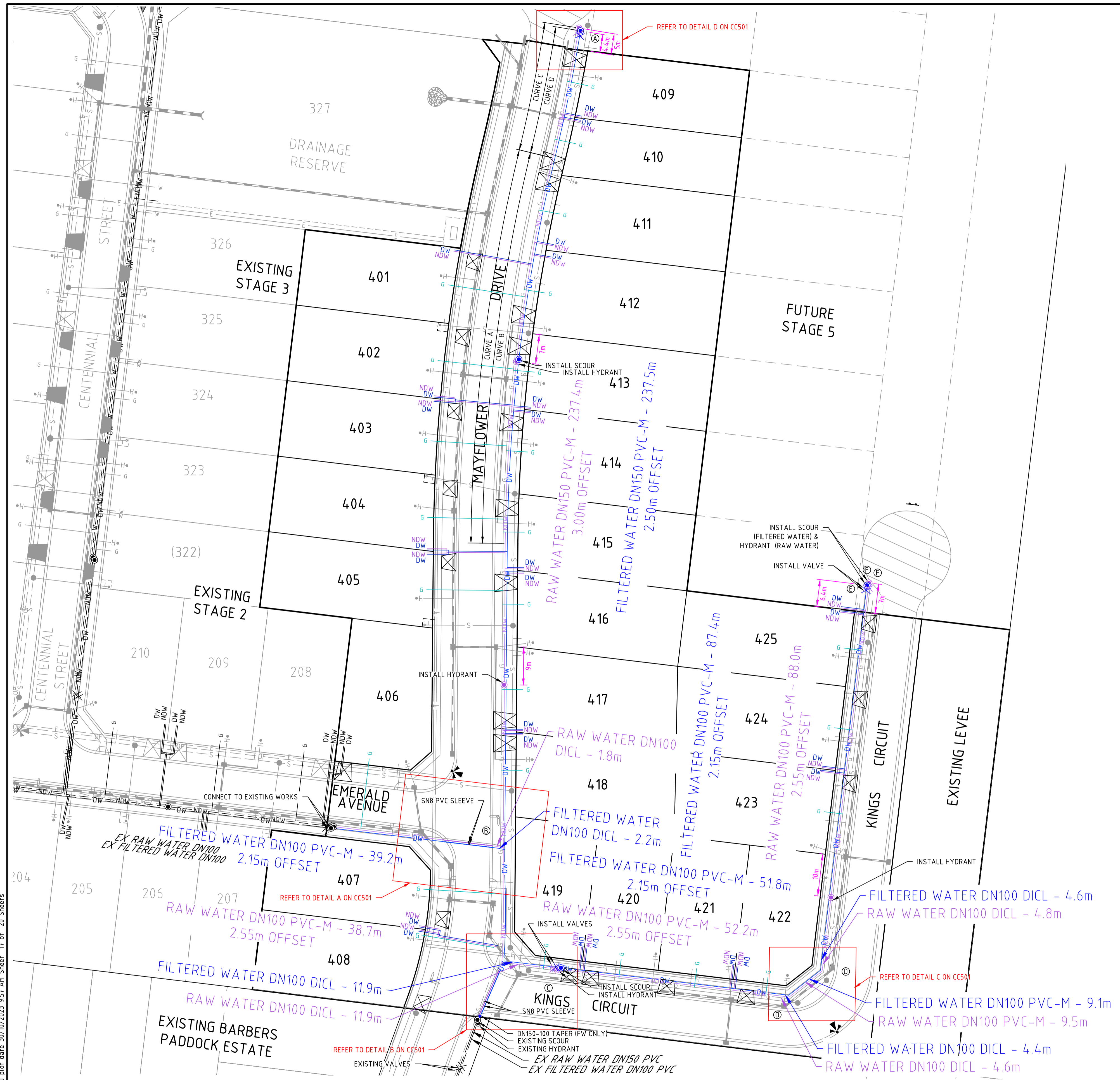
Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 23

MAIDENS GREEN
STAGE 4
HYDRAULICS - DRAINAGE PROFILES
SHEET 3 OF 3
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 310098CC432

0



	FILTERED WATER	RAW WATER
MAXIMUM DESIGN HEAD(m)	46m	49m
ZONE	RESIDENTIAL	RESIDENTIAL
TEST PRESSURE (kPa)	1000kPa	1000kPa

TABLE 1: NEW PIPE SCHEDULE

NEW WORK			FILTERED WATER	RAW WATER
SIZE (mm)	TYPE	CLASS	LENGTH (m)	LENGTH (m)
150	PVC-M AS/NZS 4441	SERIES 1 PN12	237.5	237.4
100	PVC-M AS/NZS 4441	SERIES 1 PN12	187.5	188.4
100	DICL AS/NZS 2280	PN35	23.1	23.1

TABLE 2: PIPE MATERIAL SCHEDULE

MATERIAL	REFERENCE
PVC-M	WSA-PS-209
DICL	WSA-PS-202
PE (PROPERTY SERVICE)	WSA-PS-215

TABLE 3: HYDRANT & WASHOUT SCHEDULE

MAIN SIZE	FITTING TYPE	LOCATION	STREET	LOCATION
150	HYDRANT - RW	IN LINE	MAYFLOWER DRIVE	9.0m S OF NBL LOT 417
150	HYDRANT - RW	IN LINE	MAYFLOWER DRIVE	7.0m S OF NBL LOT 413
150	SCOUR - FW	END OF LINE	MAYFLOWER DRIVE	6.4m S OF NBL LOT 413
150	SCOUR - FW	END OF LINE	MAYFLOWER DRIVE	6.2m N OF NORTHERN STAGE BOUNDARY
150	HYDRANT - RW	END OF LINE	MAYFLOWER DRIVE	6.8m N OF NORTHERN STAGE BOUNDARY
100	SCOUR - FW	IN LINE	KINGS CIRCUIT	4.9m W OF EBL LOT 419
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	5.5m W OF EBL LOT 419
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	10.0m S OF SBL LOT 423
100	SCOUR - FW	END OF LINE	KINGS CIRCUIT	6.4m N OF NORTHERN STAGE BOUNDARY
100	HYDRANT - RW	END OF LINE	KINGS CIRCUIT	7.0m N OF NORTHERN STAGE BOUNDARY

TABLE 4: CURVED PIPE AND DEFLECTION SCHEDULE

LOCATION	METHOD	RADIUS (m)	TOTAL PIPE LENGTH
CURVE A	PVC SOC DEFLECTION	403.00	92.1
CURVE B	PVC SOC DEFLECTION	402.50	92.0
CURVE C	PVC SOC DEFLECTION	407.00	31.4
CURVE D	PVC SOC DEFLECTION	407.50	30.8

TABLE 5: SERVICE ALIGNMENT SCHEDULE (SEE DRG NO. 310098CC001 SERVICE OFFSET TABLE)

TABLE 6: THRUST RESTRAINT SCHEDULE

LOCATION	TYPE	THRUST	AHBP (kPa) USED	THRUST AREA (m ²)	QUANTITY
A	INLINE	2 X DN150 VALVE	50	0.96	1
B	CANTILEVER	2 X DN150-100 TEE	50	2.51 (Y=2.32m AND W=108m)	1
C	INLINE	2 X DN150-100 TEE & 2 X DN100 VALVE	50	1.06	1
D	INLINE	2 X DN100 45° BEND	50	0.36	2
E	INLINE	2 X DN100 VALVE	50	0.60	1
F	PLAIN	DN100 END	50	0.23	2

NOTE: CONTRACTOR TO ALLOW PE PIPE TO COOL TO GROUND TEMPERATURE (MIN 25°C) BEFORE WELDING AND POURING CONCRETE ANCHORAGE
 NOTE 1: CANTILEVER THRUST ANCHOR DIMENSIONS Y AND W AS PER MRWA-W-205C

TABLE 7: VERTICAL CLEARANCES

EXISTING OR PROPOSED SERVICE	MINIMUM VERTICAL CLEARANCE (mm)
WATER MAINS ≤ DN375	150
WATER MAINS > DN375	300
GAS MAINS	150
TELECO CONDUITS AND CABLES	150
ELECTRICITY CONDUITS AND CABLES	225
STORMWATER DRAIN & PITS	150
SEWERS - GRAVITY	500
SEWERS - PRESSURE & VACUUM	500

- VERTICAL CLEARANCE BETWEEN WATER MAINS SHALL DEPEND ON THE LARGER MAIN DIAMETER.
 - WATER MAINS SHALL CROSS OVER SEWERS AND DRAINS UNLESS SHOWN OTHERWISE.
 - MAINTAIN ADDITIONAL CLEARANCE FROM HIGH VOLTAGE ELECTRICAL CABLES TO ALLOW FOR A PROTECTIVE BARRIER AND MARKING.

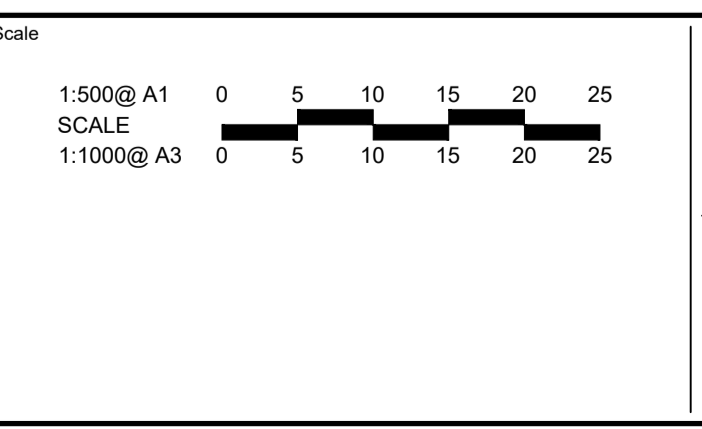
LEGEND

- (A) THRUST RESTRAINT - SEE TABLE 6 FOR DETAILS
- G GAS CONDUIT
- DW NDW SERVICE CONDUIT
- X X X VALVE
- ● ● HYDRANT, BELOW GROUND.
- ▶ TAPER
- REMOVE FITTING
- NDW RAW WATER MAIN
- DW FILTERED WATER MAIN
- W IRRIGATION WATER MAIN
- DW EXISTING WATER MAIN

FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100

file name: 310098CC001.dwg; layout: 00; created by: Isaac_Buff; file location: G:\310098\310098\Civil\A3\A3.dwg; plot date: 30/10/2023; 9:57 AM; Sheet: 17 of 20; Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23



© Spiire Australia Pty Ltd All Rights Reserved
 This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

spiire

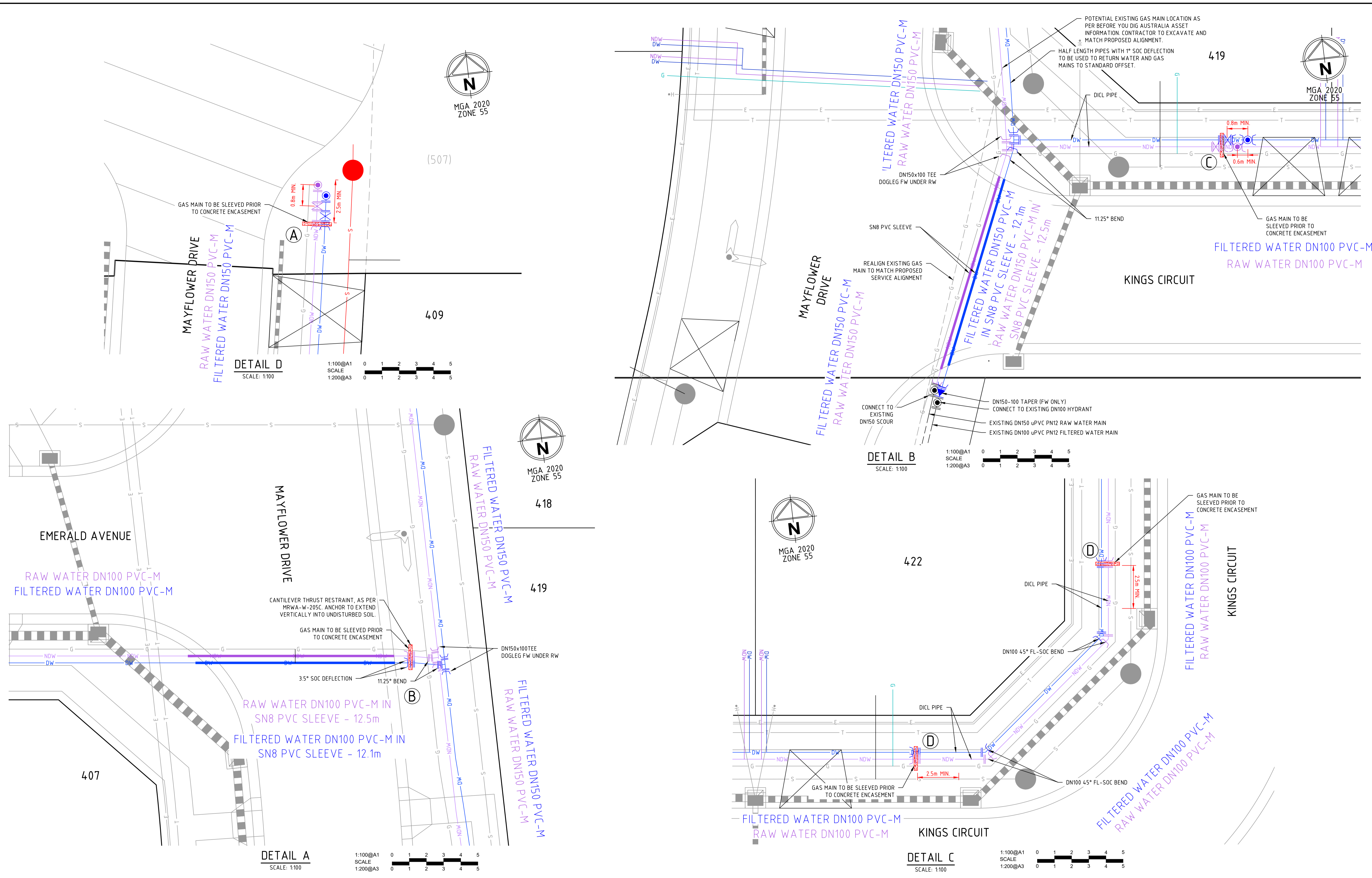
16 BRIDGE STREET BENDIGO
 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
 spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

MAIDENS GREEN STAGE 4
 HYDRAULICS - SEWER & WATER
 WATER LAYOUT PLAN
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 310098CC500

Rev 0



file name: 310098CC501.dwg, layout name: FCS01, plotted by: Isaac, Puff, file location: \\spire\beanda\310098\KingsCircuit.dwg, plot date: 30/10/2023 9:57 AM, Sheet 18 of 20, Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23

Scale	AS SHOWN
1:100@A1	
1:200@A3	

System Certified

© Spiire Australia Pty Ltd All Rights Reserved
 This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

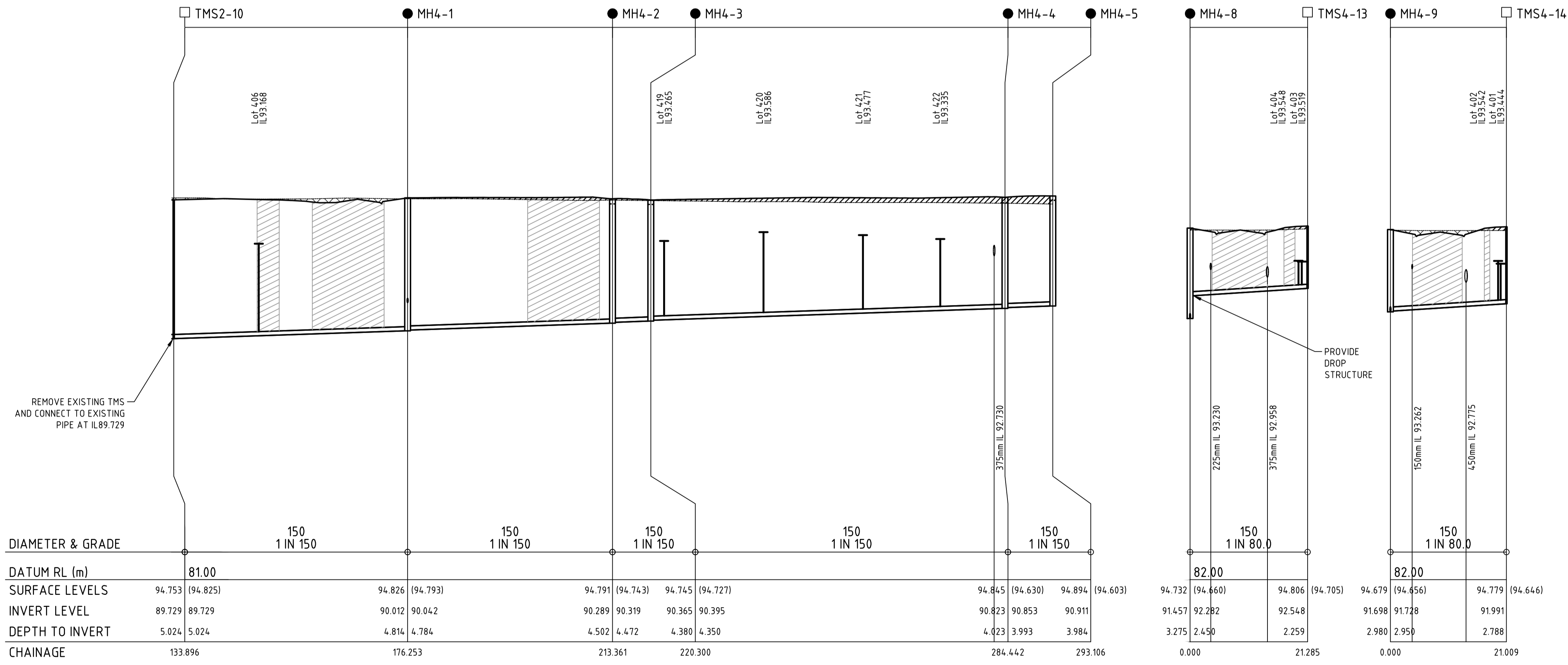
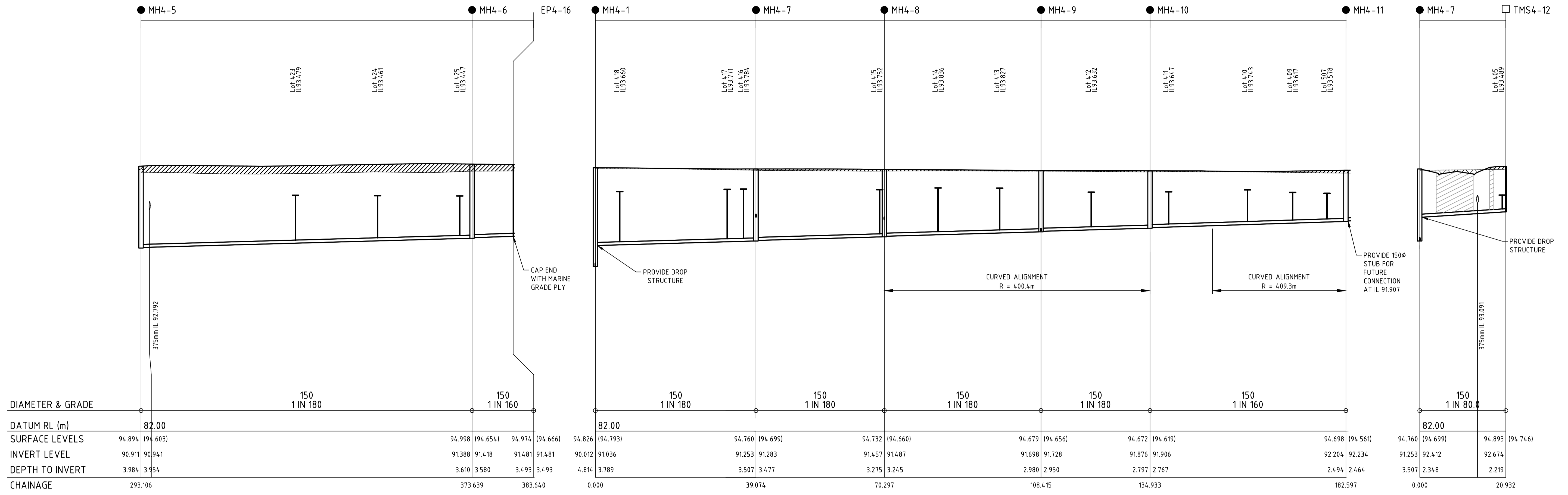
16 BRIDGE STREET BENDIGO
 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
 spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 23

MAIDENS GREEN
STAGE 4
HYDRAULICS - SEWER & WATER
WATER DETAILS
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Dwg No 310098CC501 Rev 0

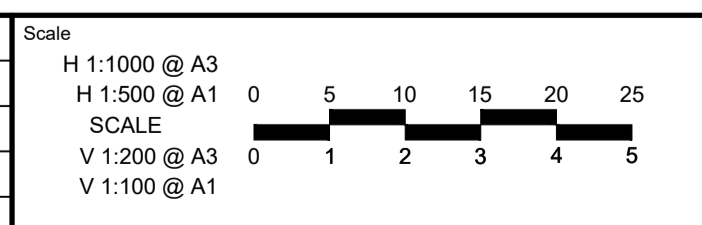
file name: 310098CC530.dwg; layout name: FCS30; plotted by: Isaac_Buff; file location: G:\310098\Civil\A3\A3.dwg; plot date: 30/10/2023 9:58 AM; Sheet: 20 of 20 Sheets



LEGEND

- PROPOSED CUT
- PROPOSED FILL
- CRUSHED ROCK BACKFILL (CRB)

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F.	30/10/23
B	AMENDED WITH COUNCIL COMMENTS	J.F.	18/09/23
A	ISSUED FOR APPROVAL	J.F.	22/02/23



ISO 9001
ISO 45001
ISO 14001

System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

spiire

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed
D.SHEEHAN

Authorised
J.FEHRING

Checked
B.IBBS

Date
OCT 23

**MAIDENS GREEN
STAGE 4
HYDRAULICS - SEWER PROFILES
SHEET 1**

MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 310098CC530

Rev 0